TRANSFORMATION AND RESILIENCE AT SHURI-JO:

DEFINING A GENOME OF PLACE

By

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John Patrick Shreve

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Submitted to the graduate degree program in American Studies and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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TRANSFORMATION AND RESILIENCE AT SHURI-JO:

DEFINING A GENOME OF PLACE

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ABSTRACT

The 1970s is widely regarded as the decade of environmental awakening in America. But many of the critical variables that later informed this ongoing conversation were mobilized in the faraway island of Okinawa, Japan's southernmost prefecture that became a new territory of the United States by virtue of their victory in World War II (WWII). The same powerful military machine that destroyed much of Japan reorganized itself into a nation-building enterprise focused on restoring and reorienting the country into a model democracy. This dissertation will construct an interactive design framework that focuses on the creation of Okinawa's new university as a microcosm of the exchanges that redefined the island's most important cultural icon. In addition to the military government, I will illustrate how visiting professors from Michigan State University interacted with Okinawan educators to shape the University of the Ryukyus (Ryudai), a new land-grant university that produced transformative changes that reached far beyond the campus boundaries. I will demonstrate that Ryudai's post-war redevelopment period, however, takes on more profound implications of sustainability if contextualized within a "genome of place" that explores biotic, abiotic, social, and economic influences across space and time.

Built on the sacred grounds of Shuri-jo, the destroyed 14th century castle, the Ryudai campus was eventually dismantled and relocated to a larger site when Okinawa reverted to Japanese sovereignty in 1972. This dissertation argues that the resilience of post-war Okinawa was symbolized by the radical transformation of the Shuri-jo site and that by disentangling the many layers of this palimpsest, its meaning may transcend its short timeframe. A critical inquiry of textual and visual materials will articulate how Shuri-jo became an iconic Cold War site

where Eastern and Western cultures intersected, modernism and traditionalism converged, and natural and human systems collided. By locating the mid-century university experiment within a centuries-old context, I will also illustrate how its successes and failures may inform Okinawa's political future as it inherits several decommissioned military sites from the U.S. government.

ACKNOWLEDGMENTS

The pursuit of this dissertation topic holds deep personal interest for me, but also promises to benefit other groups and individuals who have some kind of connection to the special island of Okinawa. One intended audience that I hope this study will address is the WWII veterans and families who may have played a role in the creation of the Ryudai and other civic projects that contributed to the reconstruction of Okinawa. Having visited Okinawa on a number of different occasions, I hope that this study will also contribute to the growing body of knowledge around the post-war issues that the local community continues to experience with its ongoing militarized environment.

The scholarly path that I am tracing in this Okinawan tale runs in the shadow of the MSU professors who travelled to Ryudai, experiencing a rush of excitement, frustration, wonder, and inspiration in their collaboration with Okinawan community leaders and U.S. military officials. Because this was a thin slice in a much longer history of Ryudai and of Okinawa, I fear that the insights of this unusual experience are in danger of being forgotten and its lessons unheeded as we collectively face an uncertain environmental future. So, while I did not have the privilege of meeting any of the individuals in person, I offer my respect and sincere thanks to the men and women who had the determination, drive, and vision to build this new university in the still-smoldering aftermath of the war.

For me, the story starts and ends with my father. When I was a young boy, I remember some of the stories that he and my uncles told about their experiences as soldiers in the Pacific during World War II. Those stories took on new meaning in recent years, when I began working and studying in Japan, and discovered that Okinawa was a place where my father and I both walked on the same sandy beaches, only separated by nearly seven decades. Without my father, there would be no dissertation and, more importantly, no story. So, thank you Dad – and to you, I dedicate this work.

And to my mother, the same heartfelt thanks go out, for all the love and support that she has selflessly given to me over the years. My brother, Tom, and sisters, Joanie, Sheila, and Molly have also joined me along this amazing journey, and so I also thank you for all your interest, emails, and phone calls to help keep me moving forward. A special thanks also to my lifelong friends, Steve and Jim. My sons, Sam, Patrick, Jacob, and Spencer have been my best coaches and sources of inspiration. Working alongside them during late nights and long weekends has made the shared quest for knowledge a unique one to remember together, not only as father and sons but as students, each in our own way.

When I began this mid-career PhD program a few years ago, there was one person who blazed the trail for me and always represented the light at the end of the tunnel. Phil Hofstra has been a true friend and trusted advisor during this time, and also introduced me to my two academic mentors, Dennis Domer and Cheryl Lester. Both of them have helped me discover new ways of thinking, writing, seeing, and searching in ways I never could have imagined before I stepped foot back on campus once again. Most importantly, they have shown me that the pursuit for knowledge never dies and never tires. There are only more questions to ask and different ways to look for them; sometimes just around the corner and other times across the ocean.

Of course, they are also the best matchmakers anyone could hope for, and one of the first persons Dennis sent me to see was Leonard Krishtalka, "Kris." I wasn't sure what to expect when I walked through the Natural History Museum and into his office but when I walked out, I was a different man. Kris has been the match that ignited my thinking about genomes and how to reintroduce the wonders of the natural world back into my world of design. While I have admittedly been a tourist in the field of biomimicry, Kris and his colleague, Jorge Soberon, have been my tour guides. Our conversations together would go on and on, until the clock told us it was time to go on to another class – or in my case, back to the office in Kansas City. But my career as an architect has exploded with a limitless repertoire

of new ideas, techniques, and resources at my fingertips now that I have spent invaluable time with the world-class minds of Kris and Jorge – a rare duo who are as passionate about art as they are science. My friends and colleagues at Keystone Technologies, Eric, Andy, and Stefan, have also been an unwavering source of support and inspiration, always pushing me to explore what lies around the corner, just beyond our immediate grasp.

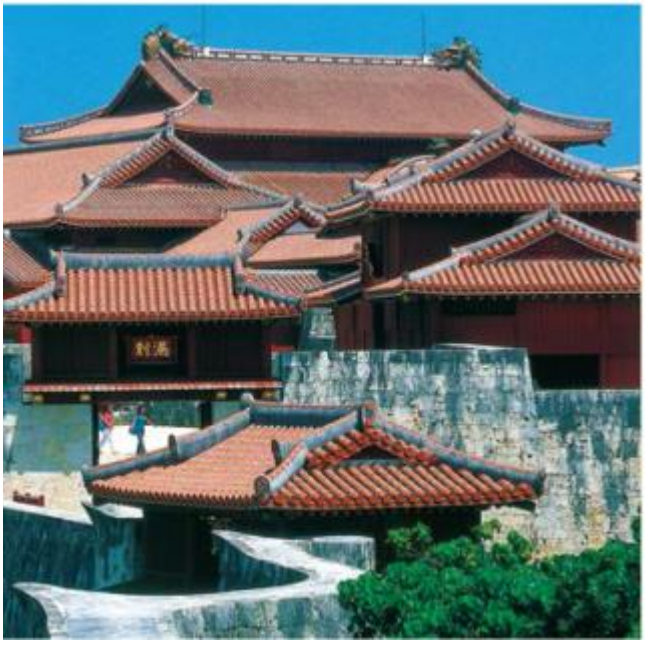
Each time I return to Japan and Okinawa, I learn something a little different, and for that I thank my long-time friend and colleague, Hiro Tanamachi. Having studied in the U.S., Hiro is a sort of bridge between Japanese and American cultures, and has been my constant teacher to understanding and appreciating the magic of Japan. In addition to Hiro, I must also thank my company, Populous, for giving me the flexibility and support to purse this crazy idea of doing a PhD in the middle of a professional career. The unusual foresight of my partners has encouraged me to move easily and frequently between board room and class room, and the cross-fertilization between the academic and business worlds has turned out to be one of the most powerful sources of creativity and innovation that I have tapped into in my adult life. For that I am grateful, and hope that I can continue to "mix it up" between both of these worlds in the future.

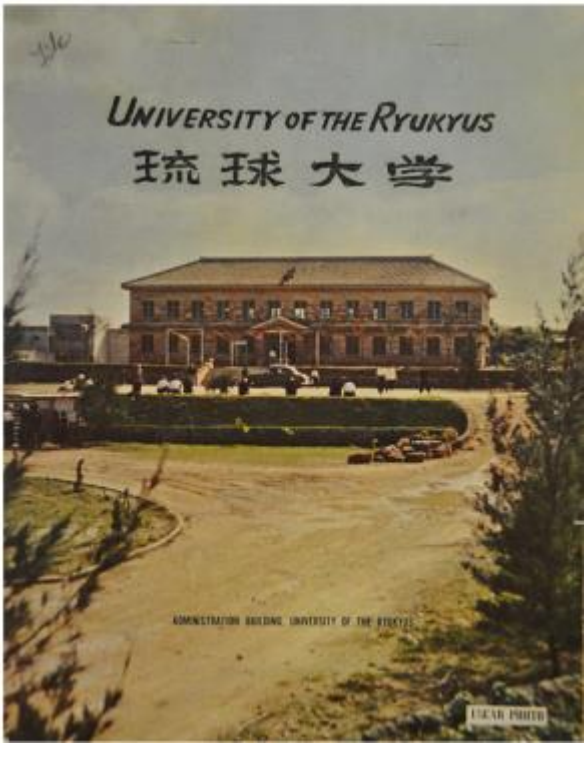
Finally, I would not be writing this without the love and support of my wife, Nancy. This "mid-life crisis" has involved an indescribable amount of sacrifice on many fronts, especially from her. And this dream would never have come true, had she not been at my side every step of the way. The only words left to say are … thank you, and I love you.

And now, onward!

Joseph Shreve, Okinawa (1945)
(Source: Personal photograph)

John Shreve, Okinawa (2015)
(Source: Personal photograph)





Upper left: *Lew Chew*, lithograph by William Heine (1853)
(Source: Matthew Perry and Francis Hawkes. *Narrative of the Expedition of an American Squadron*)

Upper right: U.S. Marine observing ruined buildings in Naha, Okinawa (1945)
(Source: Arthur Hager, United States Marine Corps)

Lower right: University of the Ryukyus (Ryudai) Brochure (1955)
(Source: University of the Ryukyus Project Records.
University Archives & Historical Collections. Michigan State University)

Lower left: Shuri-jo Castle, Naha, Okinawa (2015)
(Source: Okinawa Convention & Visitors Bureau)

Marine Corps Air Station Futenma (2015)
(Source: Wikimedia Commons)

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DEFINITIONS

Aikatazumi: The castle walls of Shuri castle and other important structures in Okinawa, constructed with a random stacking style of coral limestone blocks.

BASEmapping: My methodological framework for analyzing buildings, landscapes, and districts along a continuum of scales and over time, by incorporating mind-mapping tools for the manipulation of information and imagery. This theory "scripts" a place-based genome by combining interrelated Biotic-Abiotic-Social-Economic systems.

Biomimicry: An approach to innovation that seeks sustainable solutions to human challenges by emulating nature's time-tested patterns and strategies. The goal is to create products, processes, and policies—new ways of living—that are well-adapted to life on earth over the long haul. (See: http://biomimicry.org/).

Birds-eye view: An aerial-view of a place that is typically configured with an oblique angle, rather than a straight-down view perpendicular to the Earth's surface. This typically describes the view of a photograph or rendering style.

BRAC: The dissolution of military presence and replacement by community uses is an objective of the U.S. military's BRAC (Base Realignment and Closure) program, which is the congressionally-authorized process, employed by DoD to reorganize its base structure to more efficiently and effectively support U.S. forces, increase operational readiness, and facilitate new ways of doing business. This has led to hundreds of base closures in the U.S.

CE: Chief Executive.

***Champuru*:** An eclectic fusion of Eastern and Western cooking influences that is typical in Okinawa. It also is used as a metaphor to describe the multidimensional blending of American and Okinawan cultures.

Cho: A township or district.

Cultural ecology: This describes place from a human- and a non-human-perspective. It looks at the building-landscape-ritual relationship, or how these variables are related to each other. One source that I draw from is traditional Japanese design theory, particularly the *sukiya* design philosophy of the tea house, which strives for a harmonious balance between building, site, and ceremony.

Cultural Ecotone: My urban design model (BASEmapping or Genome of Place) extends Mark Sutton's concept of "cultural ecotone" into an interactive tool with the ability to articulate highly charged places like Ryudai as "a more productive place than either of the individual ecozones because species of both zones intermingle within it."

Daigaku: University.

Dymaxion: Environmental design philosophy which Buckminster Fuller christened *Dymaxion*, a combination of the terms "dynamic-maximum-ion." His Dymaxion map is a projection of a world map onto the surface of an icosahedron, which can be unfolded and flattened to two dimensions.

Ecocide: A term used by environmental theorist James Lovelock to describe human-induced environmental damage, often with irreversible consequences.

Ecotone: The intersection of, and transition between, two *ecozones*, usually a more productive place than either of the *ecozones*.

Ecozone: An area defined by biotic communities and/or geographic criteria (short for "environmental zone").

Environmental design: Within the broader concept of sustainability, "ecological design" refers to the process of addressing surrounding environmental parameters when devising plans, programs, policies, buildings, or products; it simultaneously considers human and non-human interactions together, spanning multiple disciplines.

Façade: Front face of a building.

***Feng shui*:** A colloquial term for the ancient Chinese way of conceptualizing and regulating power in the physical landscape, used for siting buildings with the natural and supernatural parameters of the landscape to promote harmony between the human and spiritual realm.

Genius of Place (*genius loci*): In classical Roman religion a *genius loci* was the protective spirit of a place, often depicted in religious iconography as a figure holding attributes such as a cornucopia, patera, or snake. Contemporary usage of the concept of genius of place (or the Latin version, *genius loci*) dates back to 18th century England, when it was first described by scholar Alexander Pope. Pope's expertise in gardening led him to advocate an approach to landscape that reflected the inherent qualities of a place first and foremost.

GRI: Government of the Ryukyu Islands, a locally-elected governmental body organized after WWII in Okinawa which functioned as a political liaison with the U.S. military government.

***Ho:go*:** A forest belt that encircles a house, a village, several neighbouring villages, or the coastline in Okinawa.

Human ecology: the overall study of human interaction with the environment.

"in" versus "on" I have encountered both prepositions in the vast literature used to refer to Okinawa. For example, "Ryudai is in Okinawa" vs. "Ryudai is on Okinawa." In general, I use the former version. "in."

Isometric: A three-dimensional architectural drawing style, typically looking downward at an object with the two front faces visible to the viewer.

JCS: "Joint Chiefs of Staff," a body of senior uniformed leaders in the United States Department of Defense who advise the Secretary of Defense, the Homeland Security Council, the National Security Council and the President of the United States on military matters. The organization is represented by officers from the Army, Navy, Air Force, the Marine Corps, and the Chief of the National Guard, all appointed by the President following Senate confirmation.

***Kamekōbaka*:** "Turtle tombs" which are traditional Okinawan burial chambers constructed of masonry or stone, typically built into hillsides to expose the front door and shelter the interior room within the earth.

LEED: "Leadership in Energy and Environmental Design," a performance-based sustainability tool for the design of buildings, landscapes, and districts. It was created and is managed by the U.S. Green Building Council (USGBC), a quasi-public agency. (See: http://www.usgbc.org/).

MAT: Medial Axis Analysis, the research of Van Tonder and Lyons, which applies visual effects of perceptual grouping studied by Gestalt psychologists to the analyses of physical space.

MCAS Futenma: Marine Corps Air Station Futenma, located in Naha, Okinawa.

Metabolism: Postwar philosophical treatise created by Kenzo Tange and his architectural colleagues in Tokyo, which was developed as an design approach that drew on inspiration from the natural world and charted a course for modernity in postwar Japan.

MG HQ: Military Government Headquarters.

Mind-map: A software tool developed by Mindjet Corporation, which it functions like a series of nested organizational charts that can be expanded, contracted, cross-referenced, and manipulated to use as the basis for different queries. (See: http://www.mindjet.com/)

MG HQ: Military Government Headquarters

MSU: Michigan State University

Palimpsest: Literally, a manuscript or piece of writing material on which the original writing has been effaced to make room for later writing but of which traces remain. When used to describe a building and landscape, it refers to a layering of natural and constructed systems.

Ryudai: The common name for the University of the Ryukyus, shortened by the combination of "Ryukyus + Daigaku" to become "Ryudai."

***Ryûtan* ("dragon depths"):** A pond located near Shuri castle, the Ryukyuan royal palace.

Seiden: The main hall of state for the Ryukyuan Kingdom, which was the iconic building of the Shuri-jo complex. After being destroyed in WWII, the building and courtyard was eventually rebuilt on the same site, beginning in the 1990s.

***Shinkenchiku*:** The English language version of the Japan-based architectural journal, *The Japan Architect.*

***Shisa*:** Talismans from Okinawan mythology resembling a cross between a lion and a dog. They protect doorways and adorn rooftops throughout the islands, and have become one of Okinawa's most well-known images.

***Shoin*:** A style of Japanese residential architecture used in the mansions of the military, temple guest halls, and Zen abbot's quarters of the Azuchi-Momoyama (1568-1600) and Edo periods (1600-1868). It forms the basis of today's traditional-style Japanese house. Characteristics of the shoin-zukuri development were the incorporation of square posts and floors completely covered with tatami mats.

***Shurei-mon* gate:** The iconic portal located on the edge of the Shuri-jo property, which represented a symbolic threshold between the imperial Sho-era grounds and the adjoining community. After being destroyed during WWII, it was soon after reconstructed and revered as a cultural symbol for Okinawa.

***Shuri-jo*:** The destroyed 14th century castle and gardens that served as the political and cultural center of Okinawa for centuries. After being destroyed during WWII, the castle was replaced by the original campus of the University of the Ryukyus , beginning in 1951. After the university was relocated to a larger site in Nishihara, the main state hall (*seiden*) was reconstructed on the same site.

Smart growth: A common term associated with environmentally-conscious design, encompassing architecture, infrastructure, landscape, transportation and other elements of the constructed landscape.

***Sukiya*:** A style of Japanese architecture inspired by a certain type of tea-house, characterized by functionality of design and the use of wood and other natural materials, which emphasizes an integral building-landscape-ritual relationship.

Sustainability: As a working definition for sustainability, I rely on the United Nation's definition which requires reconciliation of environmental, social equity and economic demands.

Tsubo: Okinawans traditionally measure land in the unit of a tsubo: there are 1,224 tsubos in one acre; one tsubo = 36 square feet (a 6' x 6' square).

USCAR: United States Civil Administration of the Ryukyu Islands. On December 5, 1950, the USCAR was established w/ its headquarters located in Naha.

CHAPTER ONE: A Militarized Understanding of Place

Introduction

The 1970s is widely regarded as the decade of environmental awakening in America. But many of the critical variables that later informed this ongoing conversation were mobilized in the faraway island of Okinawa, Japan's southernmost prefecture that became a new territory of the United States by virtue of their victory in World War II (WWII). (Figures 1 and 2) The same powerful military machine that destroyed much of Japan reorganized itself into a nation-building enterprise focused on restoring and reorienting the country into a model democracy.[1] The remaking of war-torn Okinawa evolved into a transnational experiment involving a wide cast of characters who participated in shaping the New Okinawa, but the process and outcome have yet to be fully articulated from an environmental design perspective. My dissertation will construct a theoretical framework that focuses on the creation of their new university as a microcosm of the mid-century exchanges that occurred within the island's concentrated geography and within a condensed time frame, influenced by a militarized sense of place. Similar to art history analyses, this work will also rely heavily on visual analysis of materials that illustrated the university campus from a wide range of sources, including military and university archives. By analyzing a diverse body of declassified reports, personal manuscripts, architectural drawings, films, and photographs of Okinawa, conventional notions of "genius of place" will be challenged, expanded, and rearticulated.[2] Using the lens of cultural ecology as a point of departure, an in-depth social and environmental analysis of the university campus will

suggest new approaches to describe and manipulate urban space, and contribute to the growing body of postwar Okinawan scholarship.

After the war, the military government recruited Michigan State University (MSU) representatives to work directly with Okinawan educators to shape the University of the Ryukyus (Ryudai) as a new land-grant university.[3] This collaboration, while charged with tension and conflict, produced transformative changes that reached far beyond the campus boundaries. Built on the sacred grounds of Shuri-jo, the destroyed 14th century castle and gardens, the Ryudai campus was dismantled and relocated to a larger site twenty-seven years later.[4] As such, there is a danger in dismissing this as an inconsequential infancy phase within the university's evolution into a larger, more prestigious national university. Ryudai's post-war redevelopment period, however, takes on profound implications of sustainability if contextualized within two interdependent factors: culture and ecology. Postwar Okinawa is an ideal subject to examine the cultural ecology of place, because its accelerated mode of destruction-reconstruction represents a concentrated episode of the perpetual struggle between natural and human systems.[5]

American, Okinawan, and MSU leaders were forced to cooperate with as well as compete with one another, in their common quest to build a new university within a culturally revered landscape.[6] Not surprisingly the distribution of power was weighted toward the U.S. military, which maintained ultimate control over the occupied territory, but volatile political dynamics materialized as Okinawa's political status gradually shifted from American to Japanese sovereignty, setting the stage for today's contentious geopolitical context.[7] The resilience of post-war Okinawa was symbolized by the university's hybridity of cultural traditions, modern technology, business protocols, multiple agendas, bilingual communication, design aesthetics, and human agency – a much different circumstance than the imperial castle and its privileged

ruling class who occupied the site beforehand. In order to disentangle the many layers of this urban palimpsest, place theory and systems thinking represent useful vehicles for hypothesizing that its relevance and meaning transcend its twenty-seven year timeframe of existence. By locating the mid-century university experiment within a centuries-old context its successes and failures may, in turn, inform Okinawa's future environmental design challenges associated with inheriting several decommissioned military sites from the U.S. government.

Chapter One will set the context for how the new university came into being by providing an overview of Okinawa's urban and environmental context after the war. What began as a condition of benign neglect shifted into one of massive reconstruction as the Cold War suddenly made Okinawa the epicenter of America's front line defense against communism. In order to make sense of the rapid transformation that took place, I will introduce a methodological framework called the "genome of place" to guide an in-depth analysis of the university campus site. Chapter Two will examine the military's transition from a destructive force into a constructive force that guided Okinawa's postwar reconstruction, with civic buildings playing a critical role in creating this new transnational identity. The powerful relationship between land and people will be established as a central theme that weaves throughout Okinawa's postwar urbanization, which has driven much of the debate surrounding its militarized past, present, and future. Chapter Three narrows the focus from USCAR's sweeping civic-building initiative to the iconic development of the new university, built atop the ruins of Shuri Castle. While the original buildings were decimated during the war, a systems-based analysis argues that the site's inherent ecological structure escaped complete erasure and was a critical factor that linked Shuri-jo's past with Ryudai's future. Utilizing original drawings and documents from archival research, Chapter Four focuses even further into the role of modernity in shaping not only the physical

transformation of the Ryudai site, but its transnational relations of power and identity as well. By concentrating on the intermediary role of the visiting professors from MSU, the complexity of the campus will be illustrated as a multi-layered palimpsest of environmental and social factors. Chapter Five directs the lessons from Shuri-jo and Ryudai to a pressing political situation in Okinawa, whereby several U.S. military sites are scheduled for reversion back to Japan. This chapter argues that a broad-based ecological design framework will open up new opportunities for understanding and designing alternative futures for militarized environments such as those found throughout Okinawa.

What happened to Okinawa after all the soldiers went home?

Because of the notoriety of the Battle of Okinawa, there exists a vast body of scholarship on the impact of war on the social and ecological systems of the island. Extensive military histories and related political analyses address prewar, wartime, and postwar time periods from both American and Japanese perspectives. However, the source material is diverse and dynamic in nature, with a constant flow of primary sources becoming disseminated or declassified each year. In addition to official documents and academic texts, a growing body of personal war memoirs and materials are being shared by war veterans who are nearing the end of their lives. My own father was a young Army infantryman who participated in the Battle of Okinawa, and recently gave me his division's official military history chronicle that was distributed to him and his fellow soldiers after the war. The book, *The Deadeyes: The Story of the 96th Infantry Division*, had been kept tucked away for years, along with many poignant memories, but now he – like many other veterans – is anxious to share some of his most profound life experiences.

Some memories fondly recall the camaraderie of fellow soldiers, while others weigh heavily on death and destruction. But one question that has lingered in the conversations with my father is "What happened to Okinawa after all the soldiers went home?"

Of course surviving Okinawans led much of their rebuilding processes, but many American military personnel also remained in Okinawa after the war was over, cleaning up the aftermath, constructing new buildings and infrastructure, and establishing a modicum of social order. Historians such as Sakihara Mitsugu, however, recognize that a critical turning point in Okinawa's reconstruction came when "vast military complexes required the expropriation of land," which thrust a caustic element into the international relations between the U.S., Japan, and Okinawa. The powerful duality of people and land has long been central to Okinawan culture, and has grown to be the central issue in their ongoing political struggles and their ecological narrative of place.[8] In addition to reviewing a variety of declassified military reports, other personal accounts from former military engineers and administrators have also filled in missing gaps and contributed to my interpretation of Okinawa's extreme environmental transformation. (Figure 3)

How did exactly did Okinawa begin to recover from its war-induced environmental crisis? How is cultural ecology defined within a transnational, post-military context? Within the geographical context of Okinawa, this is both a new and an old question. Today this question reverberates within local and international media outlets, focused on the impending changes that will come with the massive scaling back of the U.S. military presence on the island.[9] But the same question was addressed a generation ago in 1945, when America and the surviving Okinawan population confronted the monumental challenge of reconstructing the devastated towns and countryside following WWII's "Typhoon of Steel." (Figure 4) Regarded as the

bloodiest battle of the Pacific campaign, the 82-day carnage left approximately 200,000 people dead, most buildings demolished, and much of the landscape incinerated.[10] As historian George Kerr puts it, "between the hammer and the anvil, the Okinawans suffered indescribable loss."[11] The land and its people have experienced radical change in the relatively short time frame of seventy years, which has generated an ongoing examination of Okinawa's evolving cultural narrative. Historian David John Obermiller explains that "the battle not only destroyed Okinawa physically, it also altered the trajectory of identity."[12]

Similarly, increased global discourse around sustainability has provoked pointed questions about Okinawa's genius of place – concerned primarily about the threat of urban and military development to the fragile island ecosystems, which are now documented and protected to a greater degree compared to the decades immediately following the war.[13] As such, Okinawa's postwar period presents a unique time and place to explore a condition of accelerated urban and environmental transformation within a transnational context of culture and hegemony. Even though the Okinawans and Americans did not use today's popular lexicon of sustainability or ecology during the 1950s, their policies and procedures did test the limits of how far the existing environment could be transformed in order to restore basic natural and social systems after the war.

A commonly held observation about Okinawa is that its strategic proximity to Japan, China, Korea, and the Soviet Union was the primary reason for America's long-term military interest in supporting the reconstruction of the devastated island. In fact, Cold War tensions drove political stakes to new heights, resulting in America viewing Okinawa as much more than a convenient location to house its East Asian military arsenal.[14] With the vigilant eyes of Japan and other nations trained upon America, its performance as military and moral victor was played

out on the emerging Cold War stage, with Okinawa cast as the lead actor.[15] Furthermore, the new university was the most visible beacon of an idealized American model of democracy, following the political strategy of emphasizing education as a lynchpin for the "re-orientation" of Japan.[16] This ideology is stated in various forms including the university charter and numerous events such as graduations and ribbon-cutting ceremonies of new buildings. General MacArthur's speech at Ryudai's inauguration ensured that there was no mistake in America's aspirations: "The University will stand as a shining light of the future … It is hoped that this university will stand as a protector of the peace and try to achieve free education so as to conserve our rights from the powers who would make us slaves."[17] MacArthur's statement comes as Ambassador to Japan, and his newly fashioned cultural diplomacy marks what Joseph Nye describes as shift from "hard power" to "soft power."[18] These lofty declarations may have played well for public speeches and media sound bites, but they were disconnected from the actual circumstances that demanded constant negotiation and compromise between those interacting on a daily basis at Ryudai. Obermiller also argues that MacArthur "had every incentive to practice salutary neglect toward the Ryukyus" because America had been prioritizing reconstruction efforts in Europe over Asia and also there was no "indigenous bureaucracy to assist in the occupation, which only added to the burdens of the U.S. command."[19]

While the cultural gap between Okinawans and the U.S. military ebbed and flowed over time, the university campus acted as a kind of estuary where constant friction and tension existed, but still managed to yield an impressive array of buildings and public spaces.[20] In his military history of postwar Okinawa, Ota Masahide points out that the internal conflict of the U.S. military government exacerbated the problems throughout the political system, noting that

"there was a bewildering transfer of military government control between the Army and the Navy, illustrated by the fact that the U.S. occupation of Okinawa had some 22 different individuals at its head during 27 years of military government."[21] Historian Nicholas Evan Sarantakes further adds, "Interservice rivalries and disputes between the civilian and uniformed leadership of the military complicated the policy positions of the Defense Department."[22] The MSU advisors played a critical role in mediating this contested space. They were neither fully embraced by the U.S. military nor the Ryudai educators, but respected enough by both such that they functioned effectively as a liaison during their 17-year involvement in Okinawa. Once their official role commenced in 1951 they were positioned to empathize with Okinawan conditions and to translate America's "reorientation policy" into real actions, real buildings, and real landscapes at Shur-jo.

The U.S. military and the United States Civil Administration of the Ryukyu Islands (USCAR) governed and supported Okinawa's reconstruction in a variety of ways during their occupation, in collaboration with the locally-elected Government of the Ryukyu Islands (GRI), although the military retained ultimate control.[23] USCAR rarely missed an opportunity to publicize its rapid growth and expansion during the 1950s, particularly with Ryudai, which was held up as a beacon of democracy and hope for the future.[24] Okinawan literature is dominated by views that condemn American and Japanese military policies on Okinawa, but one voice that is missing is a critical perspective of the island's postwar environmental and urbanistic evolution. While this discussion exceeds the scope of this particular document, a similar absence is also true of the original university campus. That is, beyond USCAR's declassified documents, no comprehensive analysis of the original Ryudai campus architecture or planning exists. In the military's and MSU's reporting of the campus and buildings, commonly repeated accolades tend

to be predictable and generic: “beautiful,” “modern,” “efficient,” and “durable.” MSU representatives were responsible for coordinating with architects and contractors of these new university buildings to determine programmatic criteria for their particular disciplinary expertise.[25] Like the government and university leaders, their architectural design commentary was typically restricted to generalized compliments, budget-related concerns, and the drudgery of needed building repairs.[26] In hindsight, however, the sheer magnitude and rapid pace of development of the campus, the capital city of Naha, and the new military bases in the 1950s was stunning, by any measure.[27]

My interpretation of the largely anonymous architectural identity within this remaking of Okinawa is that local construction companies extended their traditional role in the design of projects. But more importantly, the dominant military industrial mindset also carried over from the wartime period into the postwar period to influence not only the engineering but also the design of projects in postwar Okinawa. In other words, the colossal scale of equipment that literally transformed the earth exhibited sheer power that was irresistible. The concentration of money, politics, and identity put Ryudai under the Cold War spotlight, becoming the jewel in Okinawa’s massive construction campaign, which was one of the largest projects anywhere in the world during the 1950s and 1960s. As Ota Masahide describes, a “state of indifference on the part of the U.S. government and military lasted until 1949, when the program for transforming Okinawa into a permanent military base went into high gear.”[28] America’s unstated vision was that their same military might could theoretically be wielded to induce a similar scale of engineering-driven transformation – but this time channeled toward a constructive, rather than destructive, force. While design aesthetics may have been subsumed by the military machine and its construction subsidiaries, the architects and planners nevertheless

played an important role in shaping the Ryudai campus, as well as other civic projects in Naha. But even though they remained largely anonymous, what were they thinking? What were their inspirations? Why did they make the decisions that they did?

As identified in the primary sources of my bibliography, I have reviewed what appears to be an untapped resource of architectural documents located at MSU's archives, which has begun to illuminate insights into some of these questions. I have also reviewed primary source material at archives in Okinawa, Tokyo, Lawrence, and several other digital resources from various websites. These archives also contain original manuscripts from USCAR officials as well as MSU faculty and administrators who participated on the Ryudai project. Moreover, a design-oriented investigation into the Ryudai site becomes amplified when it is conceptualized within Shuri-jo's broader cultural significance as a national symbol and World Heritage site. By introducing place-based theory and systems thinking as means of rearticulating Ryudai's genius of place, the complexity and contradictions of the site can be disaggregated into more manageable issues. Okinawa's transformative cultural ecology takes on even greater philosophical significance when grounded within the theoretical framework of Japanese Metabolism and *Sukiya* environmental design, which reveres the ephemeral quality of place and rationalizes the coexistence of a traditional and modern aesthetic.[29] By theorizing the iconic post-militarized site of Shuri-jo from an environmentally-based position, then, a flexible framework may be situated to inform future sites that will be de-militarized in the near future in Okinawa.

Historiographical Context and Source Material

When the idea for a new university was conceived for Okinawa in the 1950s it attracted widespread interest, but its execution faced the daunting political challenge of negotiating a highly volatile and bureaucratic context of transnationalism. Lots of rules, lots of meetings, lots of paperwork, lots of translating, lots of negotiating, lots of plotting, lots of debate, and lots of trial and error made this a venture not suited for the faint of heart. A trilateral relationship between Okinawan leaders, USCAR officials, and MSU visiting faculty produced diverse cultural perspectives that morphed and merged together, eventually shaping an important civic icon and international center for learning. The campus became a site of negotiated space, embodied by new modernist buildings and landscapes that replaced the 14th century castle which were, in turn, replaced by the reconstructed 14th century castle. This back-and-forth chronology and cultural hybridity contribute to the site's complexity and contradictions, which had repercussions throughout the island community as well as to political centers in Japan and America. This process and the campus itself represent a concentrated site of post-war convergence in Okinawa, where international politics, power, and economics generated a constantly shifting cultural and environmental laboratory. New building forms, landscapes, and public spaces were created, resembling nothing that had existed before. The close proximity of Ryudai's original campus and new campus with the capital city of Naha and the Marine Corps Air Station (MCAS) Futenma add further urban complexity, manifested at multiple scales. (Figure 5) As proponents of land-grant education and an extension school curriculum, the MSU educators likewise defined their sphere of influence well beyond the campus boundaries. Following protocol with both U.S. military and university administrators, the visiting professors issued several reports and correspondence that described their progress and achievements, as

well as their challenges and frustrations. Several of them forged not only professional relationships but lasting friendships with Okinawan faculty and students as well, embodying President Eisenhower's "people-to-people" foreign policy. Archival correspondence, surveys, interviews, and student essays reveal the depth of some of these relationships within the new university campus, which were equally important foundations to those poured in concrete.[30] Because the military enforced a disciplined pattern of regular reporting, several declassified documents are now available to track the continuous progress of events related to the campus development, albeit from a biased point of view. The foremost document of this nature is USCAR's semiannual publication called *Civil Affairs Activities in the Ryukyu Islands*. I have reviewed the issues from the 1950s and 1960s, and consider their combination of narrative, photographs, and statistics to be an invaluable resource to track the university's evolution within the larger reconstruction efforts of Okinawa.[31]

In addition to regular reporting, USCAR has also published more comprehensive documents such as the *United States Army and Navy Manual of Civil Affairs Military Government* (1947) and the *Final Report of the High Commissioner to the Ryukyu Islands* (1972), which have provided additional useful details. [32] Similar to my father's book chronicling his Army division's history, other military histories have shed light on reconstruction efforts, especially the construction and engineering divisions of the U.S. Army and Navy. Particularly valuable resources in this genre are recruiting/propaganda films produced by the U.S. Army Signal Corps Pictorial Center. Looking beyond the flamboyant narrative style, the visual cinematography and contextual backdrops represent rich visual materials to perform stimulating critical analyses. Similarly, the U.S. National Archives continues to digitize collections of raw film footage produced by USCAR, which has no sound but also offers

extensive visual resource material to supplement design critiques of buildings and landscapes. I have reviewed several of these short videos and have found their visual content to be important contributors to articulating the process and importance of design in the establishment of Ryudai and other civic projects.

An unexpected resource that I recently discovered is a website that specializes in vintage stamps, but also collects other unique books, pamphlets, and posters that point out the import role of graphic design in reshaping Okinawa's modern identity. Similarly, another treasure made recently available that shares period photography from the early postwar era is the "Remembering Okinawa" website, which features the professional work of "Blackie the Photographer."[33] The collection includes official military reconnaissance photography that portrays the intact prewar beauty of the island. (Figure 6) The site also includes distressing battle scenes, but the photographs documenting the moments before the invasion are just as shocking. Innumerable ships and vehicles disappear into the horizon, making their way to shore to unload thousands of men and tons of equipment for battle. These haunting images portend drastic change (Figure 7). As fortune would have it, Blackie's website also includes a number of Ryudai campus photographs from the 1950s and 1960s, including a unique image of the reconstructed Shurei-mon gate juxtaposed with the modern academic buildings seen beyond.[34] (Figure 8) A related source that represents a consolidated set of campus imagery is the 50-year anniversary book of Ryudai, which provides a high-level historical overview of the original campus in Shuri as well as the new campus in Nishihara, located seven kilometers away.[35] These and other sources of visual imagery are critical to constructing a comprehensive understanding of the cultural ecology of the university within a militarized context, and its impact on a new postwar civic identity.

In his essay, "Landscapes in the Dark Valley: Toward an Environmental History of Wartime Japan," Bill Tsutsui observes that while there has been a proliferation of wartime and postwar studies on topics like industrial and labor policy, Japanese feminism, political analysis, and military history, a striking omission from the scholarly literature is a "systematic study of Japan's natural environment" during and after the war.[36] For good reason, Hiroshima and Nagasaki command attention whenever Japan's war-related destruction and reconstruction is discussed. However, Okinawa also suffered an extreme degree of mass destruction, including the Shuri-jo site, which was the epicenter of Allied bombing raids targeting the Japanese Army headquarters location. (Figure 9) While the military histories I have reviewed document the environmental destruction on Okinawa, additional insights have come from descriptive accounts by independent researchers, including former government and military officials.[37] Following the controversial Red Hat controversy in 1969, greater attention has been focused on the record of the U.S. military's environmental activities on Okinawa, keeping it under the public spotlight of international media, academics, and other interested parties.[38] Most recently, this has escalated to an international fever pitch with the planned relocation of the Marine Corps Air Station Futenma to a small coastal fishing town of Henoko in northern Okinawa.[39] Now Okinawans and U.S. military face a two-pronged environmental conundrum: dealing with potential environmental contamination on the site that will be decommissioned, and impacting fragile offshore environmental habitat on the future site.[40]

The rise in contemporary academic and media criticism prompted by the threat to Henoko's environmental habitat and the permanent military presence in Okinawa has resulted in a number of sources that regularly publish provocative articles and reviews, including *Japan Focus*.[41] The *Ryukyuanist* is a newsletter on Ryukyuan/Okinawan studies that publishes these

issues along with a range of other topics, including Yoshio Shimoji's informative history of Ryudai which "had some of the characteristics and ambience of a U.S. land-grant university. These characteristics dissipated after reversion but recently revived, albeit in spirit, with the start of media extension service programs as well as with the establishment of an Education and Research Center for Lifelong Learning."[42] So Mizoguchi's paper "Schooling for Democracy: Michigan State University and Cold War Education in American-Occupied Okinawa in the 1950s" is a rare analytical study on MSU's involvement at Ryudai. The most valuable contribution that he makes is identifying the respective motives of each of the three parties: for the Okinawans, the new university represented the best way to control their future destiny; for the U.S. military, it represented a beacon of democracy and an avenue for Okinawan self-sufficiency; for MSU's President John Hannah, it represented a way to export their land-grant philosophy and grow in international prestige.[43] Mizoguchi argues that the university experiment did not always exhibit rosy relationships and that American hegemony controlled the upper hand in Ryudai policy-making, but local resistance still grew within the educational freedom that USCAR espoused. Despite the tensions and conflicts that were present throughout the American-Okinawan exchanges, Mizoguchi maintains that "MSU's University of the Ryukyus project was an outstanding achievement."[44] USCAR's education advisor Gordon Warner's account of Ryudai's evolution also recognizes inherent conflicts and tensions, and documents an insider's view into the frenzy of building schedules and processes that shaped the campus environment in the decades following the war.[45]

A first-hand reporting of the challenges of MSU's assignment to "adopt" the nascent Ryudai enterprise is Horace King's PhD dissertation, which details the frictions as well as the solutions to overcome them, relating well-intentioned efforts by Ryudai and MSU professors to

work through their differences and the difficulties encountered with the military government.[46] King also produced a set of particularly insightful notes summarizing high-level meetings between Ryudai's and MSU's presidents during a 1961 visit to Michigan, marking a significant transition of Ryudai into a stage of less construction activity but greater academic independence.[47] MSU leader Milton Muelder and other participating faculty have also written insightful accounts of their Okinawan tenures, most sharing some frustrations but unanimous in the positive effect and experience they had. Karl T. Wright is a figure who has stood out as a particularly effective MSU party leader, evident in the shared correspondence, reports, and photographs I have found in archival research. From the tone of Wright's texts and those that described him, it is clear that his amiable personality was an important factor in bridging social differences, which enabled him and his MSU colleagues to more effectively fill their stated role as liaisons between the Okinawan and military leaders.

Mapping a Cultural Ecotone at Shuri-jo

Okinawa's lifestyle had long been admired by neighboring countries during its independent nationhood as the Ryukyus, perhaps best captured by the inscription on the sacred 15th century bell that hung in the state hall of Shuri Castle:

> This nation has gathered the wisdom of Korea and maintains close, mutually dependent relations with China and Japan. Situated between these two nations, it is an ideal land where the immortals dwell (*horai-jima*). With its ships, Ryukyu acts as a bridge between the nations, and thus abounds with exotic produce and great treasures.[48]

A translation of the term "*horai-jima*" is interpreted as "*Shangri-la*" which locates Okinawa's past within a utopian perception, manifested by the island's inherent beauty and the fact that it is maintains the highest level of health and longevity on the planet.[49] The nearly-complete reversal of this idyllic condition resulting from the devastation of WWII has been extensively covered from a wide range of scholars, as well as popular media and personal accounts like those of my father.[50] While this dissertation does not focus on the war itself, it is a critical backdrop to contextualize Okinawa's nearly instantaneous shift from a tropical paradise to widespread chaos. This is an important starting point for understanding the Ryudai experiment.

Prompted by Cold War threats, America adopted Okinawa both as an obligation and an opportunity to transform this war-torn dystopia back into a reconfigured utopia, and the new university was touted as its "showcase for democracy."[51] If America and Japan consummated their marriage on the battlefield, Okinawa's Ryudai became their military offspring. However, it was not always a happy childhood. By most accounts, Okinawa has not achieved anything close to a utopian state, but this dissertation will limit its focus to the environmental and cultural tensions at play as America sponsored this project to counter Cold War threats and to rebuild Okinawa's destroyed society.[52] Okinawa's process of transformation from a state of perceived idealism (prior to Japanese annexation) to pandemic chaos (during and after WWII) and back again towards an aspired idealism (during the Cold War) is remarkable within the short time frame and concentrated geography that it has unfolded. From this perspective, a theoretical understanding of Okinawa from the canon of sustainability holds great potential. Within this generalized theme, the notion of cultural ecology is a more precise theory that supports my overall discussion. In today's debates over climate change, more and more prognostication tools

are being employed to test various scenarios of the impacts of catastrophic weather events, sea level rise, and other climate-related changes on anthropogenic and biological systems. Amidst multi-national, multi-disciplinary research studies, widespread disagreement persists regarding actual causes and reasonable forecasts for a new environmental future.[53] Viewed as an encapsulated glimpse into a potential future scenario of environmental destruction-restoration, the past seven decades of Okinawa's evolution could contribute to the ongoing debate. But Okinawa's environmental history, as documented and influenced by the U.S. military, can be traced back even further than WWII, to a century before the reconstruction of Naha and Ryudai began.

Commodore Matthew Perry's visit to Okinawa was widely celebrated in 1953 to help solidify American relations with Okinawa, since he was generally regarded in positive light by both nations.[54] While not a central focus of my thesis, brief mention is important to contextualize America's military encounters with Okinawa that followed during WWII.[55] The centennial of this event occurred at an opportune time, when U.S. military leaders were attempting to solidify positive relations with the Okinawan public. The importance of this celebration has been discussed critically by various scholars, commenting on it as the first of many expressions of American hegemony and colonization.[56] An untapped primary source that I have identified to expand this discussion is the U.S. Army's 1954 film *Okinawa – Keystone of the Pacific*, which features the Perry parade as an expression of a unifying American-Okinawan cultural bond. (Figure 10) The narrator's closing remarks provide a concise summary of how America rationalized their political relationship with Okinawa in 1953:

> In this area of the world, where totalitarian aggression is a constant threat, islands of freedom like Okinawa must be kept inviolate. Under our guidance, Okinawa has progressed markedly and gained much. But no matter how much we do for the island and its friendly people, we will have received much more in return. For as President

> Eisenhower has stated, "Okinawa Island is now regarded as a major defense bastion in the Far East, officially known to the public as America's 'Keystone of the Pacific.'[57]

A gap in the theorization of this event lies in developing a critical analysis of the visual expressions that were employed to celebrate this shared public event. The parade exhibited, for example, a contrast in personal dress and how the participants move through space. Local residents in the film are dressed colorfully, display creative floats, and periodically dance their way through the streets of Naha. As the U.S. Army follows along, the narrator observes that "Its precision is a contrast to the carefree Okinawan spectacle."[58] Together with these social dynamics, the film's depiction of urban context, landscape, and expression of public space are also important elements that define how the event infuses meaning to the city and the wider community. A recent source that sheds additional light on the Perry expedition, from an art history perspective, is MIT's 2010 exhibit, "Commodore Perry and the Black Ships." This intriguing exhibition presented a dualistic portrayal of the same historic event, but separately depicted by Japanese and American artists to present a contrasting views of American-Okinawan relations. (Figure 11) Perry's actual visit was a watershed moment in American-Japanese-Okinawan political history, but the specific aspect of his visit that fits within my dissertation is his multidisciplinary investigation into understanding the island's natural and built environments. In addition to written accounts, the documents most relevant to this study are the lithographs that were produced by staff artist and naturalist, William Heine. Published in 1856, Perry's narrative does not use present-day vocabulary such as sustainability, place, or ecology, but his systems-based analytical procedures represent a significant methodological precedent, despite occurring a century earlier than USCAR's encounters with the very same context. Together with Heine's descriptive images, Perry's written impressions of Okinawa's shores provide a valuable baseline for subsequent analyses of cultural ecology:

> The shores of the island were green and beautiful from the water, diversified with groves and fields of the freshest verdure. The rain had brightened the colors of the landscape, which recalled to my mind the richest English scenery. The swelling hills, which rose immediately from the water's edge, increased in height towards the centre of the island, and were picturesquely broken by the abrupt rocks and crags, which, rising here and there, gave evidence of volcanic action. Woods, apparently of cedar or pine, ran along the crests of the hills, while their slopes were covered with gardens and fields of grain…. The next day, the 27th, the shores looked, if possible, more brilliantly green and beautiful than ever, and all on board were struck with the loveliness of their appearance…. Of all the wonders of the sea which have furnished food for poetry and fable this was assuredly the most beautiful.[59]

Perry's expedition is noted in history as America's first formal state visit to Japan, but his scientific contributions have remained secondary to this feat. Coming on the heels of Darwin's celebrated expedition to the Galapagos Islands in 1835 and his landmark work on evolution, Perry's diverse crew provided a valuable environmental history of Okinawa. His detailed analysis of plants, marine life, geology, social traditions, architecture, and other details of Okinawa provides a remarkable record of the island's natural and constructed systems, which have direct relevance to USCAR's mid-century efforts and, by extension, to my own methodological approach.

Anthropologist Mark Sutton is one of many current scholars who have benefitted from the rich body of environmental systems-thinking similar to Perry's earlier analyses, but now fueled by new techniques, equipment, and processes developed during and after WWII.[60] Sutton also works from the cultural evolution perspective that grew in popularity in the 1950s, and describes that "it became apparent that culture was highly adaptive, that most environments had been modified by humans, that there was a variety of responses possible to most environmental situations, and that cultures were considerably influenced by other cultures."[61] Sutton's work also incorporates systems ecology from the 1960s, which argued that human cultures were not

unique but represented one part of much larger ecosystems.[62] Noting that anthropology and human ecology are "eclectic sciences," he combines ideas from natural science and social science to create a hybrid theory of "cultural ecology." One concept from this model that fits the Shuri-jo condition particularly well is the notion of a "cultural ecotone":

> An ecotone is usually a more productive place than either of the individual ecozones because species of both zones intermingle within it. Even in cases where there is less diversity, an ecotone is a good place for an organism to be located as access to both ecozones is easier. This same concept could be applied directly to cultural systems, where the border between two cultures would form the cultural ecotone. This might create a more "culturally productive" place, where ideas and goods could intermingle. Examples of such places would be trading centers, ports, and centers of learning.[63]

My BASEmapping model extends Mark Sutton's concept of "cultural ecotone" into an interactive tool with the ability to articulate highly charged places like Shuri-jo as "a more productive place than either of the individual ecozones because species of both zones intermingle within it."[64] In order to visualize these phenomena and apply them to a working method, my narrative flows hand in hand with a rich collection of photographs, films, drawings, and other visual media. This approach will be critical to illustrate my argument that while the military's pace and scale of transformation was admittedly impressive it was not, as Sylvia Ostry points out, inscribed on a *tabula rasa*. Even in its war-torn state, the concept of place and memory still existed at some primal level; photographic and film analysis will work to reveal these subtleties. Ostry's discussion on post-war Japan reiterates this position: "new knowledge, crudely termed technical assistance, was filtered through a fine web of inherited knowledge – culture, institutions, values and behavior – and thus was transformed during the process of acquisition."[65]

A wide body of scholarship has discussed the importance of Okinawa as a critical turning point in WWII, which swung the pendulum in favor of the United States before they delivered

the final blow with the bombing of Hiroshima and Nagasaki.[66] The 1945 Battle of Okinawa has been analyzed and dissected by military historians and popular media alike, and the militarization of the island continues as one of America's most important forward base locations for the Marines and Air Force. During the battle the U.S. military had Shuri Hill as one of their primary targets for controlling Okinawa, and thus, Japan. If they could extract the Japanese military leaders from their headquarters at the Shuri castle, they would have them on the run, and initiate control of the battle. Obermiller explains that one of the biggest hurdles for the Americans was their relative lack of prior knowledge of Okinawa, because its invasion was given very little advanced notice to military strategists: "In stark contrast to the previous Central Pacific operations, the JCS decision for Operation Iceberg was made in an information vacuum."[67] He goes on to quote J.D. Morris, who served as a Civil Affairs officer in Okinawa, who wrote that an invasion of Okinawa "might just as well have been assaulting the planet Mars."[68] In other words, Okinawa might as well have been a *tabula rasa* during the early stages of the war for military strategists. But that all changed quickly.

Although the U.S. had scarce information about Okinawa prior to the battle, they unleashed a powerful suite of technology and science to assess the natural and human conditions in order to formulate a step-by-step military strategy to overcome natural obstacles, control circulation systems, and entrap the Japanese.[69] The U.S. military, then, produced an impressive body of knowledge, including frequently updated troop advancement battle maps, to understand Okinawa, so that they could effectively make complex decisions for moving equipment and personnel. (Figures 12, 13, 14, 15 and 16) Their mapping illustrates a sophisticated approach to documenting significant natural- and man-made site characteristics, with a real-time dimension to show changes in the relationship between the coupled natural and human factors.[70] (Figure 17)

During the course of the invasion, the U.S. military also analyzed detailed aspects of place including soil, geology, climate, vegetation, and other ecological qualities to establish an understanding of a property's ability to support military and post-military missions. Can a runway be constructed? Can food be grown to feed soldiers and citizens? What are the climate/weather risks and threats?

After eighty-two days, the devastating battle had ended. As postwar cleanup efforts began in Okinawa, the U.S. military transitioned from a *destructive* force into a *constructive* force. The collective might of the U.S. Army, Navy, and Marines in WWII's Pacific Theater had mobilized an unprecedented amount of equipment and resources to change Okinawa from a pristine island environment into a devastated battlefield, and then into a massive construction site. By tracing the scope and scale of this transformation, the militarization of the island environment has magnified the understanding of place and accelerated the process for articulating its meaning from multiple viewpoints. But cleanup of the battlefield did not start immediately after September 7, 1945, when the Japanese surrendered to the Allied Forces.[71] The pageantry of the formal ceremony quickly evaporated once the papers were signed, leaving Okinawa and its residents in the military's wake of troops and equipment eager to return home.[72] Former U.S. Navy Lieutenant and historian George Kerr explained that "the chaotic socio-economic conditions left no room for any activities except securing the most basic needs of life: food, clothing, and housing."[73]

The well-publicized photograph of the surrender ceremony portends an uneasy future for postwar Okinawa, following the military's mass exodus (Figure 18). Under the shadow of the towering flagpole with the stars and stripes overhead, the two nations' generals signed official papers, flanked by a grid of soldiers and Pershing tanks striking a victorious pose. On either side

of the flagpole two large beds of gravel were paved to show off captured Japanese artillery pieces. The orientation of the flagpole, surrender table, and square gravel beds is geometrically independent from the surrounding road pattern, emphasizing America's new order which would be introduced to the island. Just beyond the tightly-organized ceremonial *mise-en-scene*, however, a hodge-podge of tents, trucks, and dirt roads meandered between the landscape and rubble that remained after the heavy bombing. This particular moment and this particular photograph capture a theme that was to extend throughout the military government's tenure in Okinawa.[74] Amidst the volatile environment of a war-torn context, the military strove to establish order, efficiency, control, hierarchy, and symbolism as a new American paradigm.

Theorizing an Ecological Sense of Place

The Okinawa surrender scene is a powerful moment in history but it is also a powerful display of how geography, geometry, infrastructure, architecture, politics, symbolism, landscape, ritual, and public space converge to create a specific sense of place. For centuries designers have incorporated the term *genius loci* (a Latin term meaning "genius of the place" or "spirit of the place") to articulate the relationship of architecture to society and to the natural world.[75] In his landmark book *Genius Loci: Towards a Phenomenology of Architecture* (1976) architectural theorist Christian Norberg-Schulz outlines a contemporary schema for this classic concept, updating his own methodological approach from a predominantly scientific to a more of an existentialist understanding of place: "When we treat architecture analytically, we miss the concrete environmental character, that is, the very quality which is the object of man's identification, and which may give him a sense of existential foothold."[76] Norberg-Schulz

explains that the tools of natural science are not necessarily wrong but, for him, were insufficient to achieve a holistic understanding of what makes a particular place unique. Turning to the work of Heidegger as a point of departure, he incorporates existential concepts such as 'gathering', 'thing', dwelling', 'being-in-the-world' and 'truth' into his theoretical framework, noting that "Man dwells when he can orientate himself within and identify himself with an environment, or, in short, when he experiences the environment as meaningful."[77]

When applying the notion of *genius loci* to the Okinawan surrender scene, Norberg-Schulz' dualistic approach of structure (describing formal properties of a system) and meaning (describing relationships between objects within that system) provides a useful vehicle to describe the characteristic properties of the setting and the social interactions that took place there. Had the ceremony taken place in a vast open field, the meaning of the event would have taken on a much different symbolic tone. Conversely, had the event been an exchange of supplies, the structure of the event would have been oriented toward utilitarian elements of resources and access. Norberg-Schulz' theory on place continues to inform designers' quests to analyze a particular site and envision creative interventions, but it has not escaped criticism in past decades. M. Reza Shirazi points out that Norberg-Schulz fails to meet his own criteria of considering the whole-ness of a place because his illustrations and descriptions are limited to mainly building exteriors, describing "the way they appear from outside and the way they try to adapt themselves with the 'atmosphere', 'Stimmung' or the special character of the given landscape, or their *genius loci*. Norberg-Shulz stands always outside, never knocks the door, and never steps inside the building."[78] Shirazi also observes that while Norberg-Schulz states that movement through time and space is important, his book emphasizes more of a static quality of space: "'Genius loci' does not walk around the building, but stands in front of it, and looks at it

from the point which reveals the supposed 'genius loci' clearly. This fact eventuates to a one-dimensional experiencing of the work of architecture and makes, 'genius loci' disabled and motionless."[79] To be sure, the ability to orbit around and through the surrender scene, to be able to zoom into the gathering and observe the facial expressions and body language of the participants would yield a much richer reading of the event.[80] Yet even this critique falls short of delivering a more comprehensive framework for articulating a comprehensive sense of place.

Author Guo Jianhui extends the critique of Norberg-Schulz' theory of *genius loci* another way, arguing that his reliance on "experience" as a necessary supplement to "science" insufficiently captures the holistic notion of place that he aspired toward: "Experience has become such a cover-all term in phenomenological views of place that it neglects and refuses to deal with the social or political milieu."[81] Jianhui's comments echo David Harvey's criticism of Heideggerian romanticism: "Heidegger refuses to see mediated social relationships (via the market or any other medium) with others (things or people) as in any way expressive of any kind of authenticity."[82] Urban theorist Doreen Massey shifts the critique again, claiming that the phenomenological accounts of place identity, as prescribed by Norberg-Schulz and Heidegger, emphasize more of a fixed feeling rather than seeing it as the outcome of multiple social and political interactions.[83] In contrast, Massey defines place as having much greater meaning than a static location on a map. Places are constantly shifting articulations of social relations through time and through space. Using her hometown of London as her theoretical context, she writes:

> (W)orld cities, as indeed all places, also have lines that run out from them: trade routes, investments, political and cultural influences, the outward connections of internal multiplicity itself; power relations of all sorts that run around the globe and that link the fate of other places to what is done in London. This is the other geography, the external geography if you like, of a global sense of place. For each place this geography, this tentacular stretching of power relations, will be particular.[84]

The roads, vistas, and axes of the Okinawan surrender scene metaphorically suggest the socio-political lines that extend from this military epicenter, linking to affiliated individuals and organizations in Japan, the U.S., and throughout Okinawa. Massey's expanded description of place identity encompasses both environmental and social processes and features, which change over time. It also transcends the physical constraints of a given site to recognize the relationship to distant locations and social structures. This perspective establishes a more robust framework for developing a narrative that defines not only the Okinawan surrender scene, but the architectural evolution of the new university as well. With the influence of MSU educators, Ryudai was established as a land-grant university with satellite nodes of teaching and research throughout the island. In addition to a campus identity that extended well beyond its formal boundaries, the university's evolution also had a profound relationship with other places such as Tokyo and Washington D.C., where political and economic decisions impacted how the site of Shuri-jo became a contested site of power, identity, and philosophical debate. Because of its identifiable site characteristics and its radical transformation over two decades, Shuri-jo represents a propitious case study to explore how the notion of *genius loci* can be further expanded and updated.

While Norberg-Schulz and Massey provide a solid foundation for conceptualizing place in Okinawa, their methodologies rely primarily on written narrative and occasional photographs to help make their point. Robert Sack, Yi-fu Tuan, Bruno Latour, and other theoreticians writing on the subject of place offer additional insights for advancing the notion of *genius loci*, and also include helpful diagrams blending phrases, relational arrows, and simple shapes that resemble engineering flow diagrams or Gantt charts. While these visual aids are useful to explaining their respective arguments, I also find the general approach to be short-sighted, precisely because their

complex themes are based in the visual realm.[85] Having spent a substantial amount of time with natural scientists over the past several years, both in the field and in the classroom, I have come to rediscover another version of a theoretical diagram which nearly all of us have studied at some point our academic lives – most likely in third grade science class.[86] A food web or food chain illustrates similar principles of place that these social scientists have theorized: an interdependent set of actors inhabit a specific territory with characteristics unique to their natural environment, and operate under different sets of shared rules.[87] Writing during the same timeframe as Ryudai's mid-century development, biologist Eugene P. Odum explains that "ecology is largely … concerned with the system levels beyond that of the organism."[88] When applied to social contexts, ecological constructs enrich the discourse for describing how people relate to each other and to their environment. Dynamics of hierarchy, power, identity, age, and other variables, for example, may function according to different interactions of community structure such as competition, predation, parasitism, mutualism, and commensalism.[89]

One of the most prolific minds of the 20th century was that of Buckminster Fuller, who tapped into similar principles of community ecology to bring nature's geometry into his own world view. Unlike Odum, Fuller was trained neither as an ecologist nor a scientist, but was a Harvard dropout who acquired his formative education aboard a Navy ship as a radio operator during World War I.[90] Developed a century after Commodore Perry's expedition, Fuller's spatial theory, which he termed "synergetics" represents another military-inspired framework of place.[91] While Fuller's work was clearly not intended to support military action or strategy, his comprehensive framework maps a multi-layered view of the world that extends geographical and social relations from the local to the global, overlapping with each other during the same time.[92] Fuller's work has been an influential precedent for my own theoretical framework of place,

based in an ecologically-derived mapping of geographical spaces, social relations, and chronological change. To Fuller, nature was the ultimate model, which suggested in a Gestaltian way that everything is connected at some level. Similar to the food web paradigm, he wanted to discover the structure that held it all together. As apprentice and collaborator Amy Edmundson describes, "When Bucky Fuller looked around, he saw, not trees and roads and butterflies, but a miraculous web of interacting patterns."[93] The chassis of Fuller's geometric world view was the tetrahedron, a modular three-dimensional form that could be easily scaled up or down to formulate physical or theoretical structures that reflected Fuller's systems thinking.[94] (Figure 19) Had he been aboard Commodore Perry's earlier expedition to Okinawa, Fuller would likely have been consumed with the opportunity to examine such a diverse ecosystem through a multitude of artistic, scientific, and humanistic lenses. While Fuller produced an incredible number of patents and inventions, much of his work in synergetics remains theoretical and abstract, representing yet untapped inspiration for applications directed toward real conditions like Okinawa and other transitional sites around the world.

Buckminster Fuller's "World Game" made its debut in 1961, as America became more intently focused on local and planetary environmental issues, charting an ambitious method for navigating complex ecological systems at multiple scales.[95] In contrast to other sustainability models, Fuller's version was intended to be completely dynamic and manipulated by several participants simultaneously. For Fuller, the rules involved plotting resources, trends, and scenarios to act as "a tool that would facilitate a comprehensive, anticipatory, design science approach to the problems of the world."[96] For Fuller, graphics and text are equally important and perhaps the most celebrated image of his model is one of his many brilliant inventions, the Dymaxion Map.[97] (Figure 20) [98] However, further analysis of Fuller's original World Game

materials reveals a wealth of intriguing diagrams and concepts, made even more remarkable by the fact that his vision was created "minus personal computers and the Internet."[99] (Figures 21, 22, and 23)

Written in the same year as Fuller's *Operating Manual for Spaceship Earth*, (1969) MIT computer engineer and systems scientist, Jay Forrester produced an influential text, *Principles of Systems*, which introduced the new field of systems dynamics. His mathematical logic resonated with Fuller's search for simple elegant solutions found in nature. Just as Fuller rejects the irrationality of *pi* as inconsistent with the natural world, Forrester bypasses abstract differential equations for the more accessible concept of closed systems and nested feedback loops: "Every action, every change in nature is set within a network of feedback loops."[100] In the simplest of terms a problem leads to an action that produces a result that leads to other problems and actions. But Forrester points out that this simple model suddenly grows complex when multiple variables are introduced, making multiple order non-linear systems neither intuitive nor completely predictable. Therefore, we need to extend "mental logic" across multiple disciplines and mesh it with computer simulation models to benefit from both human reasoning and the data processing power of machines.

Forrester's research partner, Donella Meadows, refined their work in systems dynamics theory with her classic book, *Limits to Growth*, which emerged at the height of America's environmental movement and became the basis for describing demographic impacts associated with population dynamics, such as those of postwar Okinawa.[101] Her work with analyzing the carrying capacity of a given environment relative to issues of food production, energy distribution, urban density, population growth, and several other demographic factors represented precisely the challenges that were at the heart of rebuilding Okinawa after the war.

This kind of transdisciplinary framework would have been extremely relevant in sorting through the multi-layered set of variables that converged in the 1950s reconstruction of Okinawa.[102] Her description of "overshoot" resonates well with the coupled human and nature systems like that of Ryudai and Okinawa that tend "to go too far, to go beyond limits …"[103]

In contrast to Sack, Tuan, and Latour, Meadows' model is represented by an elaborately drawn diagram called "The World Model" which illustrates her systems dynamics principles. Like Massey, she does not shirk at the belief that this approach could expand and contract like an accordion to operate at either a personal or planetary scale, which would support the continuum of scales at which Ryudai operates. (Figures 24 and 25) Meadows incorporated real-life case studies to test their model and to remind us that while theoretical approaches frequently adopt new names and new tools, it is also important "to make a direct translation from systems jargon to traditional wisdom."[104] She pushes us to realize that we need to identify individual functions and the relationships that form within and across groups, rather than existing blindly in our own safe and secure silos – whether they be military services, government departments, academic disciplines, or private corporations.[105] Meadows admits that, indeed, this is easier said than done but advises, "the best way to deduce the system's purpose is to watch for a while to see how the system behaves."[106] Despite the rich and complex model that Meadows produced, it is difficult to understand how it operates in a dynamic fashion, how the variables interact, how it changes over time, how it collapse or expands.[107] As a static graphic, it certainly approximates food web diagrams that some of her biology counterparts were testing, but as far as representing a theoretical framework to unpack the complexities of place, it still leaves much on the part of the user to decipher. For Meadows, however, ambiguity was integral to working with systems, and she argued that we should embrace uncertainty along with the determination to learn from

patterns and keep trying again and again: “We can’t control systems or figure them out. But we can dance with them!”[108]

The U.S. military has consistently been viewed as a primary source of technological innovation and computer applications for processing systems dynamics, and what we refer today as “big data.”[109] The reconstruction of Okinawa presented the military with the sizable challenge of converting their extensive technology and administration support infrastructure from an organization focused on destruction to one focused on construction. To track their progress, USCAR’s classified semi-annual reports included a detailed section on “Civil Affairs Statistics” which included continually updated data on demographics, labor, family income, consumer price index, trade and industry, finance, transportation, communications, social, agriculture, and weather.[110] USCAR’s statistical analyses typically included standardized graphs and tables, supported by brief narratives to further interpret the reported data. (Figures 26 and 27) The volume of information and level of detail is impressive, especially given the regularity of reporting which provides the ability to analyze continual trends during the 27-year American occupation.[111] The Bureau of Statistics department, authors of these reports, admitted that their process and results were not perfect: “… for a variety of reasons these data are in some instances incomplete, inconsistent, or otherwise deficient; however, continuing efforts are exerted to adjust, verify, supplement, or otherwise improve these …”[112] While the data reporting became more refined over time, the military government did not attain the level Forrester and Meadow’s systems dynamics of multivariate analyses to illustrate more robust relationships between coupled natural and human systems.[113] Because the USCAR reports were classified documents when published, and because access to Okinawa was tightly controlled by the military during

U.S. sovereignty, the subject of Okinawa as a case study for the theoretical analysis by experts like Forrester, Meadows, and Fuller was off limits.[114]

The first sentence of the first USCAR *Civil Affairs* report delivers a powerful message that sets the tone for Okinawan reconstruction efforts: "At the conclusion of hostilities in the Ryukyu Islands, the Ryukyuan people were in a state of destitution."[115] A theme that carries throughout these documents, as well as publicized speeches and media reports, is America's comprehensive community-building program that would rebuild an even better Okinawa. Should there be any doubt to the magnitude of the nation-building scope, a quick glance at the Table of Contents of these publications will confirm the incredibly ambitious task at creating a self-sufficient community with an American-level standard of living. (Figure 28) Ironically, the U.S. military represented their own worst enemy in the quest to rebuild an independent Okinawa, because they controlled and restricted so much of the island's natural resources. This situation was compounded by the fact that Ryukyuan spiritual heritage and community identity was based in an agrarian past, which intensified the emotional and political controversy over property rights.[116] With significantly reduced farmland and increasing postwar population levels, the prospect of rebuilding a viable Okinawan community was extremely challenging for the American military government.[117] This dilemma continues even today, as Gregory Smits observes: "Okinawa's population is high compared with the land's carrying capacity, a problem the military bases exacerbate."[118]

As one of USCAR's real estate experts, M.D. Morris expressed serious concerns over the population density in Okinawa, which continued to grow at a rapid pace during American governance. By 1968, Morris calculated that "there are about 2,000 persons per square mile, with the population increasing steadily."[119] Of course, the island's mountainous region and

military installations make the net population density even more severe, which became more visibly evident as urban congestion increased in and around Naha. The complexity of mounting population pressures and limited natural resources became the premise for USCAR's policies during the 1950s and 1960s, leading to tremendous levels of construction on the island. While their *Civil Affairs* statistics tracked the rapid changes, physical evidence and published accounts from the same time frames suggest that the massive transformation also included unintended consequences along the way. As described earlier, urban sprawl, environmental damage, and loss of cultural resources were compromised within the island's reconstruction campaign.

Sutton's work on cultural ecology also includes a number of simple diagrams, tables, and photographs which help to clarify his arguments, and which would be also be helpful to unpack the complicated issues facing USCAR. But he does not propose any comprehensive systems model on the order of Meadows or Fuller. One related subject that Sutton focuses on, however, is that of sustainability, which he likens to a balancing of natural and human systems.[120] Extending the perspective of ecologist David Janzen, Sutton argues that the notion of sustainability can become more manageable if we "treat the world … as a garden – taking care of it and using it wisely, rather than preserving it 'unaffected by humans' – now a futile effort – or using it destructively and irresponsibly."[121] Over the past two decades, sustainability has grown to become a household name, finding its way into the lexicon of business, politics, and academia. The preeminent institution that guides sustainability initiatives in America is the U.S. Green Building Council (USGBC), a quasi-public agency which promotes their widely-accepted program known as Leadership in Energy and Environmental Design (LEED).[122] Bob Berkebile, a widely-recognized leader in sustainable design, comments that "In my professional career, no other tool has been as powerful in encouraging designers and builders to look at the

environmental performance of buildings."[123] But while the regimented metrics of LEED provide much needed performance tracking for buildings, they also come with a complicated array of steps, categories, and checklists. At a recent conference on "smart growth" architect and urbanist Andres Duany complained that "Environmentalism got addicted to optimization and we can't afford it. It's absurd what you have to go through to get LEED certified. It will crash on its own. It already is."[124]

The Gantt chart-like matrices require formalized training and certification, resulting in ambivalent attitudes toward its impact on architecture and its allied design disciplines. While some applaud LEED's promotion of more earth-friendly approaches to energy, materials, transportation, and other design principles, others regard its rubric with skepticism because it stifles creativity, increases construction costs, or reduces design to a quantified formula of boxes to check. With the models of Meadows and Fuller in mind, I see LEED as moving in the right direction of systematizing how we design buildings and landscapes, incorporating multiple variables that can be tracked, manipulated, and prioritized during the design process. With the models of Sack and Tuan in mind, however, I see LEED as lacking in its ability to effectively move beyond quantitative metrics to account for more intangible and eclectic qualities of a place. Massey's comprehensive space-time model of place, and Sutton's notion of combining natural and social science may represent a fertile middle ground or, to use Sutton's term, cultural ecotone from which to further explore the concept of place.

From *Genius of Place* to *Genome of Place*

With a similar mission to the USGBC, the Intergovernmental Panel on Climate Change (IPCC) is an international non-governmental organization (NGO) formed to analyze changing coupled human and natural systems, despite discord amongst scientists and politicians regarding the efficacy and application of data. Current scientific data documenting massive changes to melting ice caps, sea level rise, changing vegetation patterns, and other macro-level environmental changes make it difficult to argue that we are not experiencing an historic shift in planetary climate and ecology.[125] In any case, the United Nation's 1987 *Brundtland Report* is the primary source for a baseline analysis of sustainability, which balances the three competing interests of economic development, environmental preservation, and social equity. Written a decade ago, this report has precipitated a popular slogan for sustainability discourse, known as the "triple bottom line," or the "three Ps" (people, planet, profit). While this tripartite definition of sustainability has enriched how we understand and apply the idea, my personal experience with natural scientists at KU has recently caused me to reassess my own approach to the concept.

Having designed a number of architecture and planning projects that have emphasized high degrees of sustainability, my professional experience has been one colored by a diverse set of collaborators. One group that made a profound impression on my personal design philosophy was the Biomimcry Guild, led by biologist Janine Benyus, author of the influential book, *Biomimicry: Innovation Inspired by Nature*. Reminding us that Nature has 3.8 billion years of experience behind it, Benyus' biological descriptions of Nature "as model, as measure and as mentor" combine with concepts by architects and engineers as the basis for applied design strategies.[126] My work with HOK, Populous, and Benyus' Biomimicry Guild on several projects resulted in a biomimetic-based design methodology that evolved with each new project. The

model has two main components that form the basis for analyzing and conceptualizing design strategies. The first is known as "Life's Principles," a set of criteria that help to identify and translate lessons found universally in Nature (Figure 29). The second is known as "Fully Integrated Thinking" or FIT, a tool based on the U.N.'s triple bottom line categories that applies ecological typologies to human circumstances (Figure 30). After several years of collaborating with scientists, I have advanced my approach to sustainability by developing a model that incorporates four different, but connected themes: Biotic, Abiotic, Social, and Economic systems, or BASE as the shorthand version.[127] (Figures 31, 32, and 33)

In addition to refining my approach for components of sustainable systems, my method has also evolved with the use of a computer software system known as "mind-maps."[128] As a result, I have incorporated mind maps into my own model, which has enabled me to make an intellectual connection with the 3rd grade food webs and interpret the theoretical models of Meadows and Fuller with a new perspective.[129] (Figure 34) By breaking down the BASE lenses into a system of expandable or collapsible sub-systems, the overall framework is greatly expanded and clearly organized. (Figure 35) This sets up the potential for creating a coding structure, identifying an inventory of components that contribute to a variable's characteristics, similar to a biological phylogeny.[130] The key characteristic of the mind-mapping software is that it functions like a series of nested organizational charts that can be expanded, contracted, cross-referenced, and manipulated to use as the basis for different queries. This avoids the sometimes overwhelming lists and categories that programs such as LEED relies upon. A web-based interactive tool such as this would also be an effective method of organizing and manipulating the intricate details of Commodore Perry's scientific expedition or USCAR's vast amounts of economic and demographic data. An important feature of mind-maps is that it can also link to

documents from other software programs.[131] This easily permits the model to accomplish what Meadows was encouraging, to cross-reference variables within the overall model to foster constant comparisons and create new combinations. More importantly, the software has the ability to link to the Internet, giving it the powerful ability to connect to any video, paper, institution, or other source to further expand the discussion of a specific variable. This feature opens up the ability to approximate the intricacies of Fuller's World Game, or to capture the complex nuances of Sack's theory of place. Yet, Meadows also reminds us that it is essential to use our powers of observation and common sense.

During the evolution of testing various graphic design solutions of spatial analysis, I pursued various formats that combined a referential map together with supporting imagery linked to the BASE systems and related variables. One version located the BASE systems and mind-mapped variables separately, to the right of a primary reference map. (Figure 36) Another variation located the four sets of variables around each of the sides of the primary reference map.[132] (Figure 37) Ultimately, I have opted for a simple composition composed of two "windows" located side by side, organized to function as a template for an interactive website design of BASEmapping.[133] (Figure 38) The left window typically accommodates a locational reference map of the site in question (an aerial photograph or birds-eye view of a site, for example). Below this window are a row of operators that permit the user to manipulate the map, for example zooming in or out, shifting from two-dimensional to three dimensional views, or linking to external mapping websites. The right window will normally be populated with supporting imagery that describes different aspects of the site, including photographs, drawings, or other descriptive documents. Above the main windows are the BASE categories (Biotic,

Abiotic, Social, and Economic), which branch can branch out to include individual mind-maps of respective variables.[134]

The dual-frame dashboard design with interactive margins overcomes a problem with common methods of describing place, whether it is a town, building, or landscape.[135] In most books or articles that include visual references with text, such as any of the ones quoted thus far, a discussion about a place may be represented by a single image that describes its locational properties – a map, photograph, drawing, or some other illustration. Should the discussion call for additional imagery to make a supportive point about the location, a second illustration may be added either on the same page or some later page. Further supporting points may appear later in the text, but separated from the original reference map. Along the same lines, I have participated in countless presentations by architects and other related professionals that rely on the same tired format, usually created as a series of Powerpoint slides of images and supporting bullet point phrases.[136] More inventive presentation formats may divide the visual workspace into two windows, as I have previously done, to allow for a back-and-forth progression of supporting imagery that relates to the main locational map. Even bolder presentation styles may elect to incorporate two separate computers and projectors to allow for even greater nimbleness to navigate amongst the imagery and data within a discussion. While these approaches may elevate the ability to integrate various sources of visual and textual data, an overarching structure is usually absent.[137]

This ecologically-based method and mind-mapping techniques have been developed in the intellectual shadow of the Human Genome Project,[138] which represents one of humankind's greatest scientific accomplishments. With a far more modest claim, I propose that my working model has the potential to dispense a greater understanding of humans, as we exist in the world

around us. Craig Venter, one of the main forces behind the Human Genome Project, points out that we must move beyond collecting data as an end unto itself, towards manipulation and eventually understanding of its meaning: "The acquisition of the sequence is only the beginning." By charging my framework with a deep list of potential variables to describe place, the potential to conceptualize new meanings and inventions has increased substantially. For architects and designers, this holds promise for amplifying how we define problems and identify tools to solve them, in line with Sack's line of thinking: "place and space are constitutive of nature, social relations, and meaning." And just as these are essential components of defining a geographical location, they are also essential parts of what define us as individual humans: "people are natural beings, social beings, and intellectual beings. How these are connected by the self depends on how they are connected by the places the person occupies."[139] As a working title for my model, then, I will shift from the canon of "genius of place" to one of "genome of place." An important component of scripting this genome will be utilizing the interrelated Biotic-Abiotic-Social-Economic systems, in a process that I refer to as "BASEmapping."[140] This process relies on the mind-mapping tools for the manipulation of information and imagery, as a way of examining place along a continuum of scales, over time. The following sections of this paper will, then, incorporate this graphic method as a basis for discussing Shuri-jo and Ryudai.

CHAPTER TWO: Constructing a Showcase of Democracy

A "New Okinawa"

How does "place" factor into the ability of cultural values to be identified, shared, and transmitted? This is a relevant but difficult question for any city, town, neighborhood, or campus. The question becomes more sharply focused in the case of postwar Okinawa, precisely because the ingredients that define place and culture were so radically changed in such a short timeframe. Reframing the question slightly, then: How does a militarized site like Okinawa contribute to a shared understanding of place? As the rebuilding process began after the war, place-defining ingredients became more readily apparent. Some of these ingredients, like schools, had to be recreated while other ingredients, like museum artifacts, were lost forever. Rebuilding involved recapturing and reinterpreting memories of place, but it also ushered in a completely new genre of architecture and public space which defined place in a "New Okinawa."

Contemporary media coverage, official government reports, and most Okinawan scholarship recognize the 1950s as an explosive growth period in Okinawa, fueled by U.S. political commitments to bolster the island as its military bulwark against mounting communist threats in China and Russia.[141] While the sheer volume of demolition and construction was indeed extraordinary, the assemblage of new public buildings, plazas, and infrastructure was a critical factor in reshaping a modern transnational identity of Okinawa. Utilizing archival materials and declassified reports, this chapter retraces USCAR's civic-building campaign in Okinawa to illustrate the paradox of America's position of hegemony over and empowerment of the war-devastated Okinawan community.[142] On one hand the military government used new

forms of architecture and engineering to symbolize American democratic ideals on their newly acquired territory. On the other hand USCAR simultaneously employed its massive building campaign to stimulate indigenous initiative and identity, by shedding the suffocating husk of Japanese authority to reveal Okinawa's Ryukyuan past as de-Japanization tactic.[143] Empowering Okinawans and encouraging independence was also consistent with democratic ideals and America's wish to see Okinawa become economically self-sufficient. As the jewel in the crown of USCAR's civic-making crusade, Ryudai became Okinawa's bridge between the past and the future, as well as America's "showcase for democracy."[144]

A Military Machine in a Tropical Garden

After the bulk of American soldiers returned home once the war was over, a much smaller command remained in Okinawa to manage a monumental challenge of a much different type, that of instilling a sense of order amongst the war-ravaged chaos. Like Japan, Okinawa was a ward that fell under the authority of the Department of the Army in its reorientation program for occupied areas. The Secretary of the Army expressed a clear objective for governing these newly acquired territories: "This program is not an adventure in altruism but one which has definite objectives in terms of the welfare, peace and security of the United States and Japan as well as for all the democratic nations throughout the world."[145] The day-to-day reality of those American troops assigned in Okinawa after the war, however, was described by many as a boring, relentless task of cleanup duty, which led to poor morale and bad behavior.[146] During the war, Okinawa was fervently described by American forces in patriotic terms as the "Keystone" of the Pacific.

Once the war had ended, however, it earned a less flattering military nickname as the "Outpost" of the Pacific. The U.S. Army film *Okinawa – The Keystone of the Pacific* described postwar Okinawa with similar smugness as the "Outmost of the Outcast."[147] Sarantakes observes that Okinawa did not register high on America's political radar, which contributed to its benign neglect. Debate between the military and State Department over whether the U.S. should assume sovereignty over the island was unresolved, while President Truman "avoided a decision on the matter and let the issue drift. This non-decision had a devastating effect on social conditions for both the indigenous population and the American soldiers stationed on Okinawa."[148] Obermiller also emphasizes the disconnect between the military and local residents, pointing out that a military-governed island nation such as Okinawa presented contradictory motives: "the military nature of the occupation consistently undermined these nation-building efforts as the 'military mind' clashed with Okinawan demands for autonomy and democratization."[149]

While Okinawans struggled for basic survival in the late 1940s and early 1950s, many Americans were riding a postwar economic wave with good jobs, new houses, and growing families. Returning veterans fueled the baby boom phenomenon, which refocused American attention on the homeland and rendered Okinawa a distant memory of wartime experiences. Economic growth, diversifying consumer patterns, pro-development zoning laws, infrastructure expansion, and the explosion of residential construction propelled suburban America into a completely new paradigm of 20th century modernism. Levittown is often pointed to as the prototypical postwar American suburb, characterized by relentless rows of machine-like boxes implanted onto the flattened generic landscape. (Figure 39) Writing on suburbia and edge cities, Joel Garreau describes that "during this historical blink of an eye, we Americans decided to

change just about all our routines of working, playing, and living." More than six decades of suburbia has engendered a wide body of academic and popular scholarship around the subject, much of it critical of the long-term physical and social impacts that we are still struggling to understand. In his influential book *The Geography of Nowhere*, James Howard Kunstler admits that the suburban subdivision was a successful real estate product which provided consumers with affordable modern conveniences, but "the main problem with it was that it dispensed with all the traditional connections and continuities of community life, and replaced them with little more than cars and television."[150]

One of the more popular American coffee-table publications of the 1950s was *LIFE Magazine*. In December of 1949, the magazine showed up on newsstands and suburban doorsteps of Americans with a shocking feature article that returned Okinawa to conversations at the dinner table and the halls of Congress. *LIFE*'s award-winning photojournalist Carl Mydans had gained permission to join Assistant Secretary of the Army, Tracy Voorhees, on a visit to Okinawa for a look at the largely ignored island.[151] Following the war the U.S. military government had maintained tight control of not only residents traveling outside Okinawa, but of foreign visitors coming into the island. Mydans demoted the military's nickname of "Outpost" one notch lower, titling his article "The Okinawa Junk Heap." To further tantalize his audience, he added a scathing byline to the title: "After four years of neglect U.S. tries to clean up a shameful mess."[152] Mydan's photographs exhibit his skill at capturing imagery that pushed the boundaries of belief, such as the endless array of rusting military jeeps. (Figure 40) This was not the Okinawa that Americans remembered and not the public image that Americans wanted to convey, especially during the volatile years leading into the Cold War.[153] The land that America had successfully conquered had now turned into an embarrassment for the country.

Author and literary critic, Leo Marx, served in the Pacific Theater for the Navy during WWII and directed his wartime experiences into academic channels to unpack the theme of technology's conflict with nature. In his landmark 1964 text, *Machine in the Garden,* Marx dissects a series of works by well-known 19th and 20th century authors and artists such as Melville, Twain, and Thoreau, writing that "again and again our writers have introduced the same overtones, depicting the machine as invading the peace of an enclosed space, a world set apart, or an area somehow made to evoke a feeling of encircled felicity."[154] Marx' illuminating analysis could just as easily describe the Battle of Okinawa or the postwar reconstruction of Okinawa: "Most important is the sense of the machine as a sudden, shocking intruder upon a fantasy of idyllic satisfaction. It invariably is associated with crude, masculine aggressiveness in contrast with the tender, feminine, and submissive attitudes traditionally attached to the landscape."[155]

One of the most vivid accounts of the dialectic between the pastoral ideal and industrialization is found in his discussion of Nathaniel Hawthorn's 1844 Sleepy Hollow journal notes, which begin with an extensive biological description of the environment, similar in character to Perry's description of Okinawa only a few years later. The crux of Hawthorne's journal entry, however, is not his ecological investigation but of the tension arising from the boisterous train that explodes into the pastoral tranquility: "the sound of a train in the Concord woods implies a radical change in the conventional pattern. Now the great world is invading the land, transforming the sensory texture of the rural life – the way it looks and sounds – and threatening, in fact, to impose a new and more complete dominion over it."[156] Marx goes on to observe that the train symbolized the eventual industrial transformation of America's rural and urban landscapes. In Okinawa we find that the mechanized aspect of USCAR's reorientation

program shared this same trajectory but the accelerated timeframe and concentrated island geography rendered the environmental transformation more violent, more extreme, and more immediate. The magnitude of earth-moving enterprises after the war is evident in official Army and Navy documents, such as the "leveling" of a large stone outcropping near Shuri Castle (Figure 41). In this instance, the "machine" does not simply "exist" in the island's natural scenery; it becomes an agent of change by dismantling Marx' "garden" with powerful cranes and trucks that carted materials away to supply USCAR's massive infrastructure projects elsewhere on the island.[157] (Figure 42)

Although James Lovelock's "Gaia Principle" was not developed until two decades later, his description of ecocide captures the enormity of the wartime transformation of the Okinawan environment, as well as some of the city-building projects that took place afterwards. Lovelock's critique is mainly directed to industrial agriculture, but the impacts could easily apply to Okinawa's militarized environment: "Agriculture … driven by a growing human population, was the gravest threat facing the earth," because it was tearing up the grasslands and forests on a massive scale, thereby reversing the process of evolution.[158] In Okinawa, convoys of construction machinery were deployed in force to clean up the postwar mess and prepare for a massive construction campaign. During the process, the island's ecological and social structures were changed forever. While the island quickly transformed into a modernized hub of technology and commerce, it also lost unique landscapes and cultural artifacts along the way. Using Norberg-Schulz' *genius loci* lens, postwar Okinawa was experiencing a profound change in both its structure and its meaning. Massey's perspective on place identity would suggest that the 1950s marked the highlight of Okinawa's shifting civic redefinition, played out in construction sites, in newspapers, and in halls of government.

While Mydan's written narrative of Okinawa was straightforward and well-researched, his journalistic reputation is primarily recognized for his photographic achievements, which provided the most memorable aspect of the *Life Magazine* article. Seemingly endless rows of abandoned jeeps, tires, and other military equipment sit on farmland, along the seashore, and next to villages, creating a surreal image that presented a quite different image of the meaning of war. This was not about horrific battle scenes; this was about the horrific aftereffects. In a particularly effective journalistic move, Mydans juxtaposed photos of a crowd of schoolchildren with a field of military trailers. Both groups are exposed to the midday sun, densely packed together, and seemingly waiting for some kind of solution to their untenable situation. In his history of education in Okinawa, USCAR Director of Education and Information Gordon Warner writes that the education crisis in Okinawa was a direct result of the war. "In addition to the loss of teachers because of war-related deaths, another major problem at that time was the retention of experienced teachers, primarily because of the low pay scales set up for the educators (and) many of the better qualified teachers transferred to better paying positions in other fields."[159]

Despite the dire conditions to which the Okinawans were exposed, they took full advantage of the "junk heaps" and "grave yards" of military equipment, breaking down the components into reusable building materials. The salvage of war material was sanctioned and eventually encouraged by the military government, as it grew into a cottage industry that supported residents' make-shift construction projects.[160] In his dissertation on education in Okinawa, MSU educator Horace King describes that "in some cases the schools were built only of poles and thatch. Some were made with old sheets of galvanized iron and scraps of tarpaulins fastened to every conceivable framework from poles to discarded steel beams from landing barges."[161] In fact, the priority of school construction over community rebuilding efforts was

evident even in the first year after the war: "Even with virtually no buildings, facilities, equipment, or textbooks … 113 schools had opened on Okinawa Main Island and in the nearby islands with a total of 78,800 pupils and 1,173 teachers in response to the will and determination of parents, educators, and others concerned about education."[162] The collection and reuse of military refuse was especially risky in the early years, since it brought people in potential contact with unexploded ordnance and other dangerous materials. In one local news article, a reporter described how students were afraid to play in the schoolyard, fearing that bombs and bullets lie under the earth. In this case, Lovelock's ecocide was not so much the mass excavation of the soil, but what lurked beneath it. In a touching display of friendship, an anonymous American soldier joined the school's principal to dig up the entire playground by hand to ensure that the area had no explosives, and was safe for the children.[163]

Mydan's visual paradox of a war-torn population fighting for basic survival and a deteriorating landscape of rusting military equipment helped provide tangible material to support a political overhaul and economic infusion to Okinawa. A series of violent typhoons in 1948-1949 exacerbated the physical situation in Okinawa, with widespread damage to Okinawan tent cities as well as American military facilities. Even the pervasive Quonset hut, the military's favored wartime building type, was vulnerable to Pacific Ocean typhoons that thrashed Okinawa's east coast.[164] Frequent episodes of violent weather were not unusual for the island, but the residents no longer had the basic protection that they had enjoyed for centuries before the war.[165] Yet, armed with a supply of war-time materials, they exhibited their ingenuity and perseverance in rebuilding their homeland. King writes, "Each typhoon leveled most of this temporary construction, but the people would patiently salvage what was usable out of the wreckage and patch together another makeshift building."[166] The plight of postwar Okinawans

calls to mind Japanese scholar Masao Kinoshita's discussion on the concept of *sabi* in traditional *sukiya* architecture: "*Sabi* is a sense of beauty peculiar to the Japanese…. In Japanese art and architecture the word *sabi* is commonly translated as rust, aged, antique, peaceful or quiet, and serene…. When this word was adopted for the tea ceremony, its connotation became poverty, simplification, and solitude." He goes on to describe its philosophical corollary, *wabi*: "Seeking its perfection through imperfection in architecture, the people who understood *Wabi* used whatever materials were at hand, either rotten timber or logs fresh from the mountains, still retaining the mark of the axe."[167] USCAR official Gordon Warner gave quite a different account of the same circumstances of dealing with natural disasters and scrap collecting:

> Only three months after the Japanese surrender, a great typhoon (of October 7-10) hit the island. In addition to destroying military equipment and shelters, "it had also served either to pile up or to churn about the vast heaps of semisalvageable canvas, canned food, gas masks, tires, jeeps, bulldozers, gasoline drums, shoes, blankets, entrenching tools, sunburn ointment and mosquito lotion which formed the most sizeable post-typhoon remains on the island. From them the Okinawans had already set to work quarrying the building materials, clothing, food and miscellaneous supplies which were to carry them through the grim winter of 1945-46 and the next several years of logistic famine besides."[168]

The initial image of the American military after the war was generally positive, as it was credited for delivering Okinawa from Japanese oppression. In his political analysis of postwar Okinawa historian Gregory Smits summarizes the widespread local opinion that "Okinawa had been duped and victimised by the Japanese Government and Imperial Army during the war, and this view was undoubtedly shared by a large segment of the population. The United States forces, in contrast, were described as 'liberators' and 'saviours' who would introduce democracy

where there had been colonialism, and liberalism where there had been militarism."[169] Immediately after the war, Okinawans' primary concern was basic day-to-day survival, in the aftermath of the "Typhoon of Steel." Saeki Chizuru points out that the primary mission of U.S. forces was threefold: to prevent disease and unrest, to begin economic recovery, and to introduce democratic principles to Okinawa.[170] Citing several demographic statistics, Mydans' 1949 article indicates that the American mission had resulted in Okinawans being "worse off now than they were for 70 years under Japanese rule."[171] Like Ota's political commentary, Mydans put his finger on the most contentious issue of postwar Okinawan politics, which continues unresolved to this day: "About a quarter of the land on which they raised sugar and sweet potatoes is now occupied by military installations." [172]

In the same year, *TIME Magazine* came out with a similar article profiling Okinawa, issuing a more direct criticism on the military's land grab: "The battle of Okinawa completely wrecked the island's simple farming and fishing economy: in a matter of minutes, U.S. bulldozers smashed the terraced fields which Okinawans had painstakingly laid out for more than a century."[173] Why were U.S. military forces so determined to take complete ownership and control of this environment? Military historian Arnold Fisch explains that because the U.S. had designated Okinawa as the staging area for the invasion of Japan, "during the early postwar era practically the entire central section of the island was occupied by military installations and massive material storage."[174] The bombings of Hiroshima and Nagasaki rendered the American's launch pad in Okinawa an unnecessary chess move, but the massive stockpiles remained and the already stressed environment languished even further. Had this scenario taken place in Fuller's World Game, the players would have been severely penalized for inefficient

supply management, poor scheduling, misuse of natural resources, and failure to provide basic human shelter and food.

While wartime photojournalism had brought the grim reality of WWII battle scenes to the public's attention like never before, the *LIFE* and the *TIME* articles now presented other, perhaps less obvious, dimensions of war. These powerful visual narratives and photographs demonstrate that war-related effects are not limited to human lives, and that they last well beyond the signing of peace treaties. Another notable publication that came out in 1949 poetically explored similar themes of humanity's relationship with the broader natural world, and examined environmental change over the course of a season and of a lifetime. Though not directed toward Okinawa *per se*, Aldo Leopold's *A Sand County Almanac* quickly became a best seller and beloved chronicle about "the relation of people to each other, and the relation of people to land."[175] Although Leopold's tale took place in rural Wisconsin, the same simple theme of "people and land" were at the very heart of Okinawa's struggle on the other side of the world. The fast-growing appetite for industrial-scale machinery and its ability to dramatically transform the land like never before was a symptom of America's postwar race towards progress: "We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect."[176]

On April 1, 1946, *The Daily Okinawan* newspaper came out with a memorial edition of "L-Day Plus One Year," celebrating the American's valiant victory over the Japanese a year earlier.[177] A full-page rendering by staff artist Irwin C. McFadden depicts what may be easily construed as the antithetical image to Leopold's idealized Sand County vision. McFadden's sensationalized battle scene resembles Armageddon,[178] with the land, sea, and air ablaze, war machines tearing through the landscape, and Allied infantrymen hunting down the enemy.

(Figure 43) At the center of the rendering is a *kamekōbaka* (traditional Okinawan burial tomb, commonly known as a "turtle tomb"), precariously engulfed in a military conflagration. During WWII firefights these tombs were used as hideouts by Okinawan residents as well as Japanese soldiers, so were frequently assaulted with rifle fire and flamethrowers by American soldiers who viewed them as enemy bunkers. (Figure 44) Okinawans, on the other hand, revered these tombs as central to their spirituality. *Kamekōbakas* connected current generations to their ancestors, the real world to the supernatural world, and the sunny tropical atmosphere to the dark earthen chamber within. Traditional Okinawan tombs symbolize their intimate awareness of and relationship to the natural world around them, consistent with Leopold's land aesthetic. Eugene N. Anderson relates the tomb archetype to a broader *feng-shui* understanding of place:

> A good site is protected by hills and streams that surround it almost but not quite completely. A valley ringed by hills and draining through one side is ideal. The gap, like all entrances, and like officials' thrones, should point south toward the path of the sun. The resemblance of this formation to a womb has not escaped traditional … observers. Equating the macrocosm to the microcosm is a universal and explicit principle. Tombs are also womb-shaped, and the womb-to-tomb correspondence is known to all.[179]

As the U.S. military embarked on their city-building and base-building enterprise, control of more and more land became their priority. The divorce of residents from their property, their family tombs, and their villages created a vacuum in the understanding of place. The decimation of an intact environment paired with plans for a newly constructed nation-state created a condition of cultural disorientation with past and future.[180] Obermiller describes that "… the period from the Battle of Okinawa to the mid-1950s (was) a pivotal time when Okinawa as an "imagined community" experienced a profound identity crisis. The ambiguity of "land-less

farmers" and their unknown future was augmented as thousands of acres of arable farmland and villages were expropriated for American military, residential and recreational purposes.[181] This unilateral policy sowed the seeds for future tensions that have established a labyrinth of political discord, fueled by high profile international treaties as well as visceral impacts on individual families: "When the landowners protested, they were met with rifles and tanks, and they ended up in jail while their homes were bulldozed."[182] As real estate transactions were expedited[183], the legal descriptions revealed the vast difference between a militarized and a localized understanding of the same piece of property:

> This Office forwarded the Land Office of your government for processing of payment in accordance with Contract No. DA 92-320 FEC-415, Certificate of Ownership No. C-46-1. The certificate pertains to one shrine being purchased in Naha City (Former Oroku Son) under Amendment No. 1 to Certificate of Confirmation and Rental Deposit No. 104 …[184]

The dizzying array of bureaucratic acronyms and reference numbers would appear inconceivable to most lay persons, especially Okinawans who had no historical pattern of describing their land or properties in such an abstract manner. This was compounded by the language barrier, with few Okinawans fluent in English. A review of USCAR correspondence from the 1950s indicates a flurry of transactions initiated by the U.S. Army's Okinawa Engineer District's Real Estate Division to increase the amount of property they controlled. When possible, these exchanges transferred ownership via sale of land, but in some cases local owners would relent only leasing their lands. Archival documents indicate numerous contracts, certificates, and amendments issued by U.S. officials to displace tombs, shrines, wells, caves, and other sacred elements from farmers and villagers. As one of the military superiors in charge

of the real estate division for the newly formed U.S. Air Force, Colonel M.D. Morris worked directly with engineers and survey teams to document desirable property for military use. Morris' 1972 memoir reveals his internal tensions between his formulaic real estate transactions and his empathetic awareness of the Okinawan's struggle for land:

> The little Okinawan farmer whose square yard of land grew the food for his family, or the tract owner whose sugar harvest provided sustenance for the whole village found themselves stripped of their land by a new people purporting at the same time to want to rehabilitate them. They had not incited the Japanese Emperor to war, nor had they requested the Allied invasion and ensuing battle. Naturally they were confused and mistrusting. They wanted their land back, or some compensation for their dislocation and hardship. This the Americans recalcitrantly refused to recognize at any time until 1950.[185]

Once the military government began offering a compensation package for affected property owners, Morris notes that they were faced with the problem of determining fair market value, complicated by the fact that "land records on Okinawa were virtually all destroyed during hostilities."[186] The U.S. Land Program in the Ryukyus calculated repayment based on valuation and ownership data generated by the U.S. District Engineer and the real estate division. [187] This process involved extensive mapping and documentation, but in hindsight Morris notes that the bureaucratic forms encouraged an objective, quantitative definition of property, stopping short of representing culturally-specific characteristics that distinguished the uniqueness of place. In other words, little attention was spent on describing unique features of a particular landscape or geography because, "nowhere in any report form was there a place for any information about the land itself."[188] Nor did the government valuation tend to assign special consideration or value to vernacular architectural qualities that characterized a place, since the survey work did not

account for "any native village or facility."[189] In order to expedite the land valuation procedure, the military objectified a property as much as possible. While this facilitated the process of negotiated settlements or condemnations, it bypassed the qualitative features that contributed to a particular property's unique personality and meaning to local citizens. In contrast to Meadows' or Fuller's intricate frameworks, the military government's systems-based methods were used to homogenize place identity, rather than distinguish the unique qualities of a farm, home, or landscape.

The military government's unilateral expropriation of residents' land, followed by its subsequent numbers-driven determination of value represents exactly what Leopold cautioned against. While land may be a real estate commodity, it is also a living organism intimately connected to peoples' lives and identities.[190] Modern Okinawan cultural criticism focuses on this polemic as one of the principal factors which have colored the tenuous geopolitical dynamics between the U.S., Japan, and Okinawa. Yet America's transformation of the Okinawan environment was not limited to a financial equation, or even spiritual transgression. The physical metamorphosis of the landscape was immediate and adhered to the heavy-handed construction techniques of military engineers, who used Okinawa as a sort of testing ground for mega-scale machinery and processes. In some cases the alterations were irreversible.[191] To be fair, the military engineers provided an extraordinary new island-wide system of critical water, power, transportation, and communications systems that completely modernized Okinawa. Today's economy and daily life could not function without these macro-level improvements. All urban communities which have experienced this modern metamorphosis have experienced this kind of Faustian bargain between progress and nature. Okinawa's modernization could not be separated from the relationship between a vulnerable natural world and America's powerful

technological apparatus, which accelerated at an exponential rate of change in the 1950s and 1960s, fueled by military funding and know-how.

The environmental transformation that took place in Okinawa may have been the perfect setting for the work of science fiction writer H.G. Wells, who thrived on inventing radical fantasies of nature being distorted, exploited, and mutated.[192] Mid-century advances in science and engineering paralleled those of five decades earlier which unlocked insights into nature that ignited a flood of new world views, fueled by the provocative imagination of H.G. Wells. Credited with foreshadowing many political, economic, and environmental events such as those taking place in the American colony of Okinawa, he embraced the subject of newfound inventions involving nature and technology, which became the source for his utopian and dystopian glimpses into the future. Wells' literary genre grants him a longer leash to provoke conventional opinion through his various narrators, while also advocating a thoroughly modern future that is constantly progressing: "The Modern Utopia must not be static but kinetic, must shape not as a permanent state but as a hopeful stage, leading to a long ascent of stages."[193] Similar to Massey's London, Wells saw cities and social centers as being in constant flux, both environmentally and socially, a natural characteristic of the modern condition. In *Men like Gods*, Wells echoes USCAR policies by weaving a poignant narrative that shifts the "balance of nature" to a position of "managing nature" which conveniently extirpates things like annoying insects. The problem comes with the realization of nature's interdependencies: in this case the unintended consequence results in the elimination of other birds and animals that like to eat those insects.

> The question of what else would go if a certain species went was one of the most subtle that Utopia had to face. Certain insects, for example, were destructive and offensive grubs in the opening stage of their lives, were evil as caterpillar or pupa and then became

> either beautiful in themselves or necessary to the fertilization of some useful or exquisite flowers. Others offensive in themselves were a necessary irreplaceable food to pleasant and desirable creatures. It was not true that swallows had gone from Utopia, but they had become extremely rare; and rare too were a number of little insectivorous birds, the fly-catcher for example, that harlequin of the air.[194]

Morris, Warner, Kerr, and other military-officers-turned-authors developed narratives within the non-fiction world of Okinawa, which nevertheless evoke shades of Wells' fantasy machinations. A common theme among these writers is their elegies to the callous use of powerful machinery which demolished existing structures, scraped mounds of rubble, and leveled topography to prepare sites for future military installations or other public works projects. Fortunately, Okinawa's tropical climate was conducive to the rapid propagation of flora and fauna, both on land and in the sea. However, the military machinery inflicted significant disruptions to the island's habitat during the mid-century building boom.[195]

Willard Hanna was another former military government official who took a personal interest in Okinawan cultural heritage, and went to extraordinary lengths to salvage priceless artifacts from the rubble.[196] Along with a few Okinawan colleagues, Hanna reports that "largely from the rubble and corpse-littered caves of Shuri Castle Hill, we managed to bring together a collection which included rare items from the prewar Shuri Castle Museum."[197] Although generations of the Ryukyuan artistic world had been erased in the battle, Hannah and his small team managed to save important cultural assets such as the centuries-old bells from Shuri Castle: "These tremendous bells survived bombing, burning, shooting and – often the most formidable hazard on war-time Okinawa – military souveniring. We dug two of the bells out of the ruins of the Shuri Castle area shortly after the fighting ended and arranged for their delivery to MG HQ

…"[198] (Figure 45) Historian Tze May Loo observes that other men and women also braved the dangerous postwar conditions to salvage remnants of Okinawan culture amidst the ashes of war: "At the same time that Hanna and Omine were salvaging pieces for the museum at Higashioma, Toyohira Yoken, a journalist who later became the CEO of the *Okinawa Times* newspaper, was salvaging whatever fragments of cultural objects – pottery, stone sculpture, wood carvings, textiles – he could find in the Shuri area and displaying them in a shed which he named "Shuri Museum."[199]

The burst of demolition and construction activity that took place in the first decade after the war initiated a process of redefining the collective meaning of place within a dynamic transnational context, which resembled the popular Okinawan culinary style known as *champuru*.[200] This eclectic fusion of Eastern and Western cooking influences has a direct correlation with the multidimensional blending of America and Okinawa, of military and civilian, of formal and organic, and of vernacular and modern. The USCAR photograph of the construction of Bailey Bridge captures this duality of American and Okinawan influences, when two bridges coexisted, at least for a fleeting moment. (Figure 46) While damaged slightly, the vernacular bridge is an elegant curvilinear structure with supportive arches and finely crafted stonework that is a hallmark of Okinawan design. A particularly noteworthy element is the pair of terraced abutments where beautiful trees are seamlessly integrated into the overall composition. Juxtaposed to the ancient bridge, a contrasting modern steel truss bridge has been erected by military engineers along an efficient axis straight across the river. Right across from the few traditional houses left intact, trucks, bulldozers, and cranes move enormous quantities of material from the site, and have widened the roadway to accommodate large machinery and higher volumes of traffic. Eventually both bridges were demolished and replaced by a larger

one, but this photo captures a unique moment in time when the two cultures tenuously shared the same purpose and the same site – a common sense of place within a rapidly changing landscape.

America's Bastion of the Pacific

As American reinvestment flowed into Okinawa during the 1950s, construction skyrocketed, and the island's physical condition and identity transformed dramatically. American imperialism was now exercising the full force of its democratic vision on the doorstep of Asia, displayed by permanent military installations and a modern metropolis. Fisch's description captures America's idealistic tone announcing their presence in Cold War Asia: "After the long period of collective neglect, the Army, the Department of State, and the Congress all contributed to the dawn of a new era in the islands."[201] This new era of America's territorial occupation of Okinawa, however, was driven more by a military chess move than it was by humanitarian aid. With the looming communist threats of Russia and China, the Joint Chiefs of Staff pushed hard to develop the island into the premier forward base to function as a "Bastion of the Pacific."[202] The rebuilding of Naha's urban core and Okinawa's infrastructure system were necessary ingredients to the larger military installations, since all the systems were tightly connected to each other. (Figures 47 and 48) USCAR's ambitious nation-building enterprise included a wide variety of growth initiatives which were billed as an "integrated construction program" that encompassed both military and civilian projects.[203] The classified reports that USCAR sent to Washington D.C. generally described the ongoing progress in glowing terms, to promote a positive image of the new democratic experiment: "New projects are being investigated, designed, and approved as rapidly as possible … These projects consist of

reclamation of land from the sea, construction of earthen dams, concrete diversion weirs, tunnels, irrigation ditches, access roads, and bridges."[204]

In his personal memoirs, USCAR official Willard Hanna similarly described how the capital city of Naha had ushered in a building boom of postwar development, a stunning transformation from the "blighted wasteland in 1945, where only a few shells of concrete buildings stood and a few military detachments found billets in Quonset settlements …"[205] In spite of this rapid progress, however, Hanna expressed some concern over the island's exponential growth with no apparent control: "While the struggle is vigorous and invigorating, and the results to date are astounding to anyone recalling the desolation of 1945, the transition from the bucolic Okinawa of the past to the totally unpredictable Okinawa of the future is often painful to eye, ear, nose and throat."[206] Morris' description of Naha in the early 1960s is even more direct and more disparaging: "Naha city sprawls its way up the hillside through all the open country which used to lie between it and Shuri. It has swallowed up Shuri and moved on eastward …. These environs have, in just eighteen years … become slums."[207] Similarly, the seemingly uncontrolled urban growth in Naha also paralleled that in postwar Japan. U.S. Ambassador Edwin O. Reischauer applauded the rapid economic recovery that Japan achieved, but also noted that "Tokyo became a nightmare of new construction-multi-storied buildings, elevated highways and new subways."[208] Both Tokyo and Okinawa, it seemed, experienced the contradiction of improving quality of life via economic progress and diminishing quality of life via relentless sprawl.

On one hand USCAR and the local government were fulfilling exactly the urgent needs of a devastated Okinawa: food, shelter, infrastructure, and public services. As Carola Hein describes, "The social toll that accompanies wartime destruction does not lend itself to

innovative, long-range thinking…. Rebuilding in Japan thus concentrated on survival and the satisfaction of urgent needs through pragmatic measures."[209] But with the rapid growth patterns that Naha was experiencing in the 1950s and 1960s, was there any macro-level urban development strategy in place? Did the military or local government, in fact, have any long term planning strategy for the island's postwar growth and development? In her study of postwar Japan, Hein observes that "… the occupation authorities in Japan rarely addressed planning and reconstruction issues directly. The most influential postwar policy change in terms of spatial planning initiated by the occupation was agricultural land reform …"[210] Yet the military rhetoric during the early stages of the Cold War superseded unpopular land use issues, in order not to miss an opportunity to prop up Okinawa as a shining democratic experiment in Asia. In October 1949, Major General Josef R. Sheetz, also the military governor, launched a two-pronged policy for Okinawa: economic recovery and the democratization of government.[211] Sheetz made clear that everyone understood the grand vision of the Supreme Commander, Douglas MacArthur[212] and the U.S. military: "Okinawa is rapidly being converted into a formidable bastion for the defense of the free world in the Far East."[213] As Fisch points out, image and identity played an important factor in America's remaking of Okinawa: "The (engineering and construction) team developed plans for numerous joint-use projects. Roads, harbor facilities, public utilities, and military housing were all to be rehabilitated. At the same time, Martino and Norvell concentrated on giving Okinawa a face lift, ameliorating its image as a physical junk pile…"[214]

The U.S. military government maintained a well-funded media division to spin positive reports of their accomplishments in Okinawa to satisfy domestic political pressures and to influence emerging Communist interests in Asia. Having reviewed numerous declassified reports from USCAR, one thing that stands out is the military government's high priority for

producing a variety of pamphlets and media reports that publicized the Okinawa success story far and wide (Figures 49, 50, 51, and 52). Technology and mass media, then, became critical tools for reshaping identity and the understanding of place. One of the U.S. Army's largest media productions on Okinawa, for example, was the 28-minute film *Okinawa: Keystone of the Pacific* (1955) which provides an excellent snapshot of a wide variety of U.S.-sponsored construction projects during the height of the building boom, including the new university.[215] At one point in the film the narrator complains about the fetid conditions that the Army engineers have to contend with during their mega-construction, especially all the "dust storms." The treeless landscape and scores of construction machinery tearing up the landscape elicit Lovelock's description of ecocide and leave one wondering if a dust storm ever existed on Okinawa prior to the war. Together with other USCAR documentary film footage, this resource has uncovered useful information for the visual analyses of Okinawa's postwar urban and rural transformation.[216]

During USCAR's tenure in Okinawa, their diverse staff of specialists exhibited classic military discipline in preparing comprehensive reports twice a year.[217] Now declassified, the materials have opened up a potentially untapped primary source for future insights into Okinawan studies. A review of the *Civil Affairs Activities in the Ryukyu Islands* reveals an evolution of USCAR's use of graphic design and media that worked to justify the military government's actions and policies. It also reveals the importance of their "integrated construction program" in America's desire to recast the Okinawan identity in democratic terms. Whereas many socio-economic programs were critical to Okinawa's postwar "rehabilitation," they did not provide visibly tangible evidence of Americanization in Okinawa. Because buildings are more lasting and invoke visible impressions, they were effective tools at

symbolizing America's brand on the new Okinawa.[218] In USCAR's initial report, the author notes that "Items of construction are more permanent in nature, rendering not only the continual conveniences and services for which they were designed, but serving as overvisible memorials of the appropriation which was the financial backbone of the Ryukyus' recovery from the war's devastation and of the country and people from which the money came."[219]

The rebuilding of Okinawa followed a dualistic pattern in the 1950s and 1960s: one dedicated to military functions, and one dedicated to civilian functions. The first construction trajectory was devoted to strictly military installations included airstrips, storage and administration facilities, housing, and other supportive infrastructure. Because the military engineers and contractors had complete control over property "within the fence line," they exercised *carte blanche* decision-making with these construction projects. Former Air Force officer Mark Gillem describes Okinawan military bases as "America Towns," places that elicit the powerful global reach of imperial military powers and their control over occupied territories and populations. Writing more from an architectural point of view than a historical perspective, Gillem acutely points out that military bases are anomalies to the existing environmental context, reflecting the imperial source much more than the host country. Kadena Air Force Base, for example, resembled Levittown more than it did Naha. Some military engineers, local engineers, and construction companies unfortunately carried a similar relentless planning mentality into some of their private sector projects in Okinawa. (Figures 53, 54 and 55) For the "America Towns" of military installations, "the spatial model is a low-density suburb, exported from the homeland, replete with auto dependency, isolated uses, and low net densities."[220] Aerial photographs of newly constructed military bases including Kadena, Camp Schwab, Camp Kinser, and MCAS Futenma, depict relentless rows of barracks, gridded streets, cul-de-sacs and

other patterns extracted as "slices of the American Dream."[221] Willard Hanna takes a similar critical stance on the military planning aesthetic, with a more colorful description:

> Architecturally, the installation seems a hybrid between the Kansas cyclone cellar and the Hawaiian beach hotel; scenically, it appears, in juxtaposition to the rest of Okinawa, as though two identically cut geographic jigsaw puzzles had got mixed up, as though pieces of an aerial view of a luxury-scale Levitown had been fitted into a photo-reconnaissance map of a sort of tropical, oriental Tobacco Road.[222]

Theorist Dorreen Massey would likely have found Hanna's prose delightful, as it draws upon an eclectic mix of vivid references to envision a truly bizarre collection of architecture, transportation, landscapes, signage, vehicles, and of course all the diverse personalities that went along with the Okinawan kaleidoscope. Here we have not only the politics of space reaching beyond the space itself, but the metaphors and descriptions are drawn from external sources to try and capture the hybridity that was being constructed in the wake of the war. Whereas Okinawa had an exceptionally narrow demographic profile prior to 1945, its postwar cross section was much more diverse. America's military presence and the construction-related professionals that came along with the building boom also brought a wide range of spatial references along with them. In addition to soldiers, engineers, and contractors from throughout the U.S., Japanese professionals also re-entered the Okinawan scene in the 1950s. The geographic diversity, then, also widened Okinawa's exposure to other aesthetic styles and references as it embarked on reimagining its new civic identity.

In addition to building military projects within military properties, a second construction trajectory of reconstruction developed "outside the fence lines" of the bases, improving island-

wide services such as water and power systems, shipping facilities, and road networks. In his historical analysis on reconstruction in Okinawa, Ikeda Takayuki points out that the existing City Planning Act (*toshi keikaku ho*) and the Urban Building Act (*shigaichi kenchikubutsu ho*) of 1919 were in effect until the American military government replaced them with their own policies. Takayuki stresses that the U.S. military quickly assumed hegemonic authority over the political as well as the physical aspects of urban planning after the war: "The execution and financing of reconstruction projects as well as subsequent city planning had to be authorized and supported directly by the US military government. In other words, city planning in postwar Okinawa began under the direct control of the US military government."[223] Carola Hein concedes that Japan may have established comprehensive land use regulations that guided postwar redevelopment, but "conceptual debates on aesthetics and urban theory were very rare."[224] As Hein reminds us, Japan has a much shorter history of modern urban planning than it European or American counterparts, claiming that "Japan does not have a strong tradition of visionary design."[225] Even though Okinawa was severed from Japan directly after the war, USCAR accounts, media reports, and contemporary scholarship agree that Japanese socio-economic influence gradually reemerged in Okinawa. Following Hein's logic, however, Japan would have little to offer Okinawa in the way of urban planning expertise to guide postwar reconstruction strategies. As a military official with USCAR's real estate division M.D. Morris supports this notion, disappointed that during the wholesale reconstruction of modern Okinawa there seemed to be no rhyme or reason why things were built the way that they were. Pointing to his own military government and the emerging Okinawan political machine, Morris reflects:

> Here a marvelous chance for a triumph in oriental city planning might have been achieved by a minimum of American foresight combined with a modicum of Okinawan patience. But the urgency for money and new places prevailed and the platinum chance

> was lost forever. Instead of a city being a model for oriental urban redevelopment, it incorporated the worst features of Western gaudiness and Eastern habitual reuse of the old familiar footpaths.[226]

Morris' assessment of a lost opportunity in city planning is at odds with the bold rhetoric of U.S. military leaders and politicians who liked to portray Okinawa as the poster child of democratic reform in Asia. As historian Ikeda Takayuki recalls, "The Americans declared that Naha, as the capital of Okinawa, was to be a modern city containing government offices, shopping districts and residential zones."[227] He goes on to analyze the evolution of urban planning policy in Naha, arguing that either directly or indirectly, the American military government maintained control over how the city was replanned and rebuilt. In the early 1950s, U.S. Army Technology Corps initiated large-scale public works projects in response to political aspirations to become "the most modern city in the East." America's vision for a new Japan alludes to the ambitious plans of the Meiji restoration, when "Japan built structures associated with Western technology throughout the country, especially schools, military barracks, lighthouses, railroad stations and government offices. Many of these were, for Japan, new building types, and the Meiji government adopted both foreign planning norms and quasi-foreign architectural styles."[228] However, Carola Hein indicates that Japan's postwar condition was vastly different from the Meiji era, nearly a century earlier. While MacArthur and his military commanders frequently promoted a democratic future for Japan, their idealistic rhetoric contrasts greatly with Japan's lack of any futuristic vision.[229] On the other hand, Takayuki surmises that "there was nothing radically distinctive about the American plans, and they were most probably drawn up by the construction engineers with a view to efficiency and sanitation."[230] Both USCAR and GRI leaders brought in outside specialists to advise the groups on city and regional

planning issues for the reconstruction of Naha, which ultimately followed an engineering-oriented approach for massive construction projects.[231]

A New Map of Naha City

Ikeda Takayuki reports that insights into early postwar city planning for Naha are limited due to the lack of surviving documents. However, in my archival research of USCAR documents I discovered a fascinating map entitled "A New Map of Naha City," an original hand-drawn document appearing to be the combined efforts of USCAR and GRI officials.[232] (Figure 56) While the drawing has no title or date, it nevertheless illustrates a remarkable "work in progress" during a critical period of Naha's reconstruction. This unique document is a provocative example of an urban palimpsest, composed of multiple layers of information and names that cross over several historical periods. Up to this point, I have seen no reproduced image of this map, nor any written description of its existence. A close inspection of the map presents an intriguing collision of natural features and manmade features, overlapping and layered in a montage of patterns. While some of the waterways maintains a natural, curvilinear flow, much of the shoreline has been regularized to fit the shifting city grid conditions, as if new alignments were made right on the drawing itself. (Figure 57) There is no overarching grid pattern, such as one might see in San Francisco or New York. Rather, downtown Naha more closely resembles the clashing and overlapping patterns of Tokyo. The New Naha map has over twenty grid patterns, reflecting a type of elasticity that enables the city to respond to shorelines, topography, land ownership, and a community's organic evolution over time.

In her study of postwar reconstruction in Tokyo, Sylvia Ostry makes an insightful observation that in spite of American control and in spite of mass debris clearance, the war-torn Japan was not a simple *tabula rasa* upon which new urban models could be easily engraved. Yes, the war was devastating to Japan and Okinawa, but the "embedded social capabilities" and collective memories were not completely wiped out by the war. Ostry's theory asserts that "the new knowledge, crudely termed technical assistance, was filtered through a fine web of inherited knowledge – culture, institutions, values and behavior – and thus was transformed during the process of acquisition. The result was inherently unpredictable for the American administration …"[233] A study of the various labels on the *New Map of Naha City* illustrates the cultural web and unpredictable juxtapositions that Ostry describes. A tapestry of districts with evocative names parade across the map: Matuyama-cho, Wakasa-cho, Tuboya-cho, Makishi-cho, Kumoti-cho.[234] Encroaching on the historic districts are irregular shapes that resemble a spreading virus, brightly colored in orange pencil. These are the new military installations that represent the latest stage in the city's evolution, with less interesting descriptions: Land for Military Use, American Housing Area, Naval Port. Perhaps the most intriguing aspect of the map is the hand-written inventory of buildings labeled across the city extents.[235] The building names tell a story, and provide an evolving cultural legibility that is rare to find on urban maps, which usually depend on meticulously drafted delineation of streets, buildings, and natural features similar to those created by the U.S. military to track troop movements in the invasion of Okinawa. (Figures 12, 13, 14, 15)

The building names on the map on New Naha identify a wide range of uses: schools, hospitals, commercial buildings, cultural centers, and government buildings. When cross-referenced to USCAR's semi-annual reports, an intriguing interpretation of postwar Naha begins

to emerge. As described earlier, USCAR widely publicized the rapid rebuilding progress of Okinawa to portray it as a successful model of democracy in the face of mounting Cold War tensions. My analysis of USCAR's semi-annual reports between 1951–1967 reveals that the wave of public buildings constructed during this era represented a prominent chapter in redefining the new civic identity of postwar Okinawa.[236] As indicated on the *New Map of Naha City*, the public buildings of the USCAR era are dispersed throughout the city, creating a constellation of small civic nodes. The U.S. Army's documentary film *Okinawa – Bastion of the Pacific* boasts, "The new construction on Okinawa has extended to every area of activity: university buildings, hospitals, theaters, public buildings, and sports facilities all have been built to serve Americans and Okinawans alike."[237] The civic buildings depicted in architectural photographs from USCAR's semi-annual reports reveal a consistency of style that is common to nearly all of the public buildings on the island.

Figures 58 and 59 illustrate a sampling of USCAR-era architectural styles, which share a number of strikingly similar characteristics. Virtually every building featured in the USCAR reports is constructed with concrete, a dramatic shift from the previous generations of Okinawan architecture which was predominantly wood-frame construction. The pragmatic explanation for this may be traced to military directives, such as those issued in the 1949 Nold report that placed "a special emphasis on typhoon-resistant structures utilizing reinforced concrete and concrete block construction. Typhoon Gloria had convinced the engineers that, given the excessive annual losses from storm damage, the United States could no longer depend on temporary construction in the Ryukyus."[238] In her analysis of modern architecture in Japan, Cherie Wendelken offers an alternative explanation for the widespread use of concrete: "Although Tange stresses that his 'brutal' buildings of raw concrete were partly the result of limited

construction budgets in the postwar era, these designs were also meaningful signs that Japanese architects had re-forged links with the international design community and its values."[239] Nearly all the new buildings featured flat roofs with gridded fenestration and extended overhangs – all signature elements of the emerging modernist architectural movement that swept the globe following the war. While most of the photographs of that period are black and white, the buildings appear to be painted white or raw concrete finish, which was another accepted modernist characteristic. Dana Buntrock provides a compelling argument that links the new architectural aesthetic to historical roots: "Japan's early twentieth-century architects also used abstraction to unify past and present, an architecture of achromatism achieved by unpainted natural materials, modularity in a clearly articulated and simple structure, all inspired by the history of *shoin* and *sukiya*."[240]

As an interesting graphic design depiction of the same concept, a 1950s-era postage stamp illustrates the new administration building at Ryudai, placed against the background silhouette of the main hall (*seiden*) of Shuri Castle.[241] (Figure 60) This presents a provocative conceptual link between the modern architecture of Okinawa with its centuries-old heritage, a condition which Buntrock describes as the "two territories of ancient and innovative…"[242] The Ryudai administration building is rendered in the stamp's foreground with a repetitive gridded façade, broken by a simple gable roof and entryway over the main entrance.[243] The silhouette of the Shuri-jo Senden, meanwhile, lingers in the background, demonstrating an architectural style with far greater articulation and detail. The stamp highlights the uncertainty and contradictions between the binary of Okinawa's old and new seats of cultural power. The discoveries that Buntrock made in postwar Japan also reflected similar tensions in Okinawa: "The two territories

of tradition and today each grew, one romantic and provincial, the other international and innovative, regional richness was pitted against representation of national know-how."[244]

The architect of the Ryudai administration building is Nakaza Hisao, one of the few architects of postwar Okinawa who is recognized by name. Well-respected by Okinawans and Americans alike, Hisao is an important figure in Okinawa's reconstruction period because he is a rare personality who bridges several of the cultural gaps that Buntrock identified. Trained as an architect in Osaka, Japan in the 1920s, he began working in Okinawa in the 1936 on the restoration of one of Okinawa's most important architectural icons, the Shurei-mon Gate. Following its destruction during the war, he was engaged once again for its reconstruction. So Hisao's Japanese connections enabled him to absorb much of the emerging architecture and planning influences that were forming a new theoretical foundation for the modern Japan. This included Kenzo Tange and his Tokyo colleagues, who were the drivers of Japan's postwar philosophical treatise, which they labeled "Metabolism." Reflective of the Ryudai stamp, Tange reconciled modern architectural style with traditional Japanese design philosophy, rather than divorcing the two. Hisao was employed in the engineering division of the U.S. Navy after the war, so gained valuable experience and familiarity with American standards, procedures, expectations, and idiosyncrasies. This would prove invaluable in future encounters with USCAR and American consultants, especially in large, complex projects that involved Okinawan laborers and Japanese construction companies. Finally, Hisao is credited with introducing the "hana-block" into modern Okinawan architectural language, which historian Naoke Isobe argues was a reinterpretation of traditional Ryukyuan textile designs.[245] Hisao's decorative concrete block is visible throughout many Okinawan mid-century buildings, including one of Okinawa's most public buildings, the GRI headquarters building. (Figure 61) Along with the deep

overhangs, light-colored wall surfaces, and recessed ground floor building elements, the hana-block screen walls were modern articulations of climate-specific designs that functioned well in the tropical island.[246]

From an urban design perspective, analyzing Okinawa at mid-century opens up a number of fascinating, yet untheorized, subjects. As historian George Kerr discusses, following Japan's 1879 annexation of Okinawa it was commonly viewed as an "expendable" part of the nation's body, which was fully realized during WWII.[247] When the U.S. was charged with the task of rebuilding Okinawa after the war, Okinawa became a de facto American colony, separated geographically and psychologically from the consciousness of Japan and America alike. The irony of Okinawa's impressive mid-century building campaign is that despite its unprecedented portfolio of new buildings, infrastructure, and landscapes, the identity of designers appears to be largely absent. I hypothesize that thoughtful design work was indeed performed within this period, but it was a subsidiary of a larger, more powerful industrial structure that evolved directly from the massive war campaign. Architects and planners were employed directly in the Navy Seebees and Army Engineers Corps, as well as through contractual agreements with private firms.[248] Evident in preliminary reviews of construction-related documentation, descriptions of new projects tended to profile construction companies, which supported the military's goal of training local labor for economic development as well as developing a local labor pool.[249] Other than Nakaza Hisao, the few architectural firms who are identified in Okinawan projects tend to be associated with large multi-national companies who also have engineering capabilities.[250] I also hypothesize that military engineers were responsible for much of the mid-century building campaign in Okinawa, motivated by top-down orders for quick, efficient, and utilitarian projects which often led to bizarre juxtapositions, insensitive

environmental impacts, and unintended consequences (Figure 62). Similarly, the translations and compromises between MSU advisors and Okinawan leaders also resulted in hybrid architectures, landscapes, and spaces at Ryudai.[251] (Figure 63) At the same time, it is important to recognize that the postwar rebuilding of Japan stimulated a flourishing architectural movement, led by Kenzo Tange and his colleagues who are credited with introducing modernism into the Japanese architectural milieu – a style that dominated the generation of new buildings that mushroomed in Okinawa.[252] Because some Japanese construction and architectural firms were contracted for USCAR projects, some of the architectural influence migrated from the mainland to Okinawa during the 1950s and 1960s. American construction companies, engineers, and architects likewise brought their version of modernist architecture to post-war Okinawa.

Building the University of the Ryukyus (Ryudai)

After reviewing numerous photographs of modern buildings of the USCAR era, I have found that the vast majority focus on the building itself, emphasizing it as a singular object by downplaying any significant relationship to site or context. Likewise, most architectural and engineering drawings from the same timeframe delineate the building or infrastructure element, independent from its surrounding environment. (Figure 64) Another mid-century postage stamp from Okinawa, however, presents a much different representation of the modern architecture of Okinawa, depicting an elevation view of the Ryudai campus. (Figure 65) The unsigned rendering is skillfully painted, and attributes equal attention to landscape and to building, forming an attractive ensemble of the natural and built environment as the campus terraces down the hillside. Hisao's administration building and Shikiya library are prominent and complement

the adjacent campus buildings to construct a larger, integrated cluster of buildings. Similar to the *New Map of Naha*, the stamp's campus composition present a palimpsest of textures, patterns, and materials, woven together by the lush tropical landscape of Shuri-jo Hill.

To find any remotely similar representation of an integrated building-landscape amalgam in Okinawa, one would have to return to Blackie the Photographer's pre-war photographs or William Heine's lithographs from the 19th century Perry expedition. Blackie's aerial photograph of a small coastal village portrays a cluster of houses and shops nestled against a steep hillside overlooking the sea. (Figure 66) On the other side of the hill, a neatly organized agricultural valley expands out until the next set of hillsides, where thick forests wrap into a continuous greenbelt. At first glance, the scene appears simple, yet picturesque; perhaps not dissimilar to the pastoral landscape that Nathaniel Hawthorne described in his 19th century Massachusetts.[253] In this view, however, no train or tractor is in sight. A deeper analysis of the image reveals that there are many layers to be read, beyond Blackie's beautiful composition. The seaside town and region displays a sophisticated ecosystem of climate protection, food production, efficient transportation, natural habitat, and sense of community. Yet Eugene N. Anderson wisely points out that while these prototypes are 'traditional' it should not be taken to mean that they are unchanging: "The whole point is that they have changed. People have learned, over time, better methods of coping. Moreover, some traditions are much newer than others."[254] Eventually the train and tractor, and many more machines invaded Blackie's paradise, but at what cost?

The archetypal village of prewar Okinawa represents a model of self-sufficiency and charm that the American military government aspired for during the entire postwar reconstruction period, but never fully achieved. Willard Hanna shared America's dreams of a new improved paradise, but admits the military's shortcomings: "The island might become a

Pacific showplace … but if Utopia has not arrived, neither has the neglect been as great as I had feared."[255] Every USCAR report included statistics and narratives to measure how well they were nurturing Okinawan independence and managing relief of America's economic burden: "… it is believed that the Ryukyu Islands are well on their way to the attainment of a greater degree of self-sufficiency than that which existed prewar while at the same time a gradual elevation in average living standards is being achieved."[256] The university campus on Shuri-jo Hill was one place that the American military and Okinawan governments amalgamated within a shared territory. Each had expectations of an idealized symbol for the new Okinawa which would be built on this sacred site. What resulted was a hybrid condition, one that represented a transitional middle ground that reflected Eastern and Western sensibilities, as well as contrasting ideals of village-based tradition and technology-driven modernism.

William Heine's lithograph of the Shurei-mon gate was created over a century prior to the establishment of Ryudai and the creation of its postage stamp. (Figure 67) Like the university, Heine's image is located on Shuri-jo Hill, the political and spiritual center of Ryukyuan culture. His subject is depicted similar to a stage set, with a crowd of people waiting in anticipation for Commodore Perry's formal entry into the imperial territory through the iconic gate. While the focus of the composition centers on the main portal, the contextual backdrop is also critical to establishing the setting's ambiance. As with the Ryudai stamp, the lithograph skillfully balances building with landscape, blending the two systems in a balanced *mise-en-scene* which provides a thicker comprehension of what the place must have felt and looked like. Heine produced several other lithographs of 19th century Okinawa that capture similar moments in which the built environment and natural environment appear in harmonious coexistence, a condition that made a deep impression on Perry and his military entourage. For the High

Commissioners of USCAR and their diverse staff members, an entirely different Okinawan environment and social context was encountered after the war. Perry was a guest in paradise; USCAR was a steward in search of paradise. The common denominator between the two was Shuri-jo, the most beautiful and sacred site of the island. Despite the U.S. military's monumental rebuilding process, their collaboration with Okinawan leaders to build a new university on the site of the destroyed castle was their most important cultural decision during their governance. The 1963 campus brochure describes the significance with drama and passion:

> The site of the former Shuri Castle, was chosen as the site for the University in the hope that the institution built here would perform the same role of being the center of learning and the driving force for the establishment of new culture in Okinawa just as was played by the Castle in the days of the Ryukyu Kingdom with its flourishing cultural achievements.[257]

CHAPTER THREE: Transformation of a Cultural Icon

Contextualizing Shuri-jo

During the USCAR era, Okinawa was heroically publicized by American politicians and military officials as the "Keystone of the Pacific" and the "Bastion of the Pacific." Ryudai was the jewel in the necklace of new postwar projects that stretched the length of Okinawa and adjoining islands between Formosa and mainland Japan.[258] The hundreds of buildings and public works projects that USCAR generated or supported in the 1950s and 1960s changed the face of Okinawa forever, creating an American-influenced territory unlike anything that had been done prior or since. The Cold War's rapid infusion of cash, the resulting construction boom, and the tightly controlled approval process in Okinawa resulted in a collection of mid-century buildings that shared remarkably similar architectural qualities.[259] This was most visible where the highest density of new public buildings and spaces were constructed, at Shuri-jo, site of the 14th century Sho-era Ryukyuan court, site of the Japanese WWII headquarters, and now site of the island's first institution of higher education. Unlike many other USCAR-era buildings, the grouping of university buildings was intimately connected to their site conditions and landscape features – a quality that is implied by graphic depictions such as the vintage postage stamp discussed earlier. While the castle's buildings were decimated during the war, the terrain's inherent landscape structure fortunately escaped complete erasure at the hands of military bulldozers and dynamite. What social dynamics were at play that led to the decision to not only avoid "leveling" the site, but rebuilding it as the island's signature icon? Was there some powerful collective recognition that demanded reverence of the ruins as a memorial site?[260]

Was it another example of a military power expropriating an advantageous geographical location?[261] Or was it a shrewd political move to reify the cultural distinction of Okinawa's identity?[262] Perhaps it was a combination of these and other factors, yet to be identified, which led to a newly defined understanding of its "Shuri-ness" which became the basis for the fundamental relationship between building and site on the new campus. Because of Shuri-jo's intrinsic constraints and idiosyncrasies, the resulting spatial qualities of Ryudai reflected a unique condition that linked tradition and modernism, Eastern and Western characteristics, and the built and natural environments.

This chapter, then, locates Shuri-jo within a broader context that transcends the main court and adjoining buildings. While this concentrated building cluster was the symbolic center of the Shuri town and the Ryukyuan Kingdom, it was also connected to a larger system of ecological structure (water, topography, climate), social structure (class, religion, education), and economic structure (commerce, agriculture, governance). Likewise, the university campus shared a similar hierarchical structure with the symbolic center defined by the central quad and accompanying academic buildings. At the same time, the university was also blended into a much larger network with the surrounding community. Following Massey's spatial theory, Ryudai formulated a new place identity after the war, which was linked across time and space to the heritage of the 14th century castle, to community nodes across the island, and to political centers in Tokyo and Washington D.C. Despite its iconic setting it was not confined to an isolated acropolis with privileged access for royalty and VIP guests. Rather, the land-grant philosophy that the MSU advisors promoted became a blueprint for how Ryudai would benefit a diverse population of farmers, builders, entrepreneurs, and home-makers, in addition to full-time university students.

Ironically, Okinawa's mid-century construction boom dramatically altered the physical structure and appearance of Shuri-jo and the fledgling university, but its transformation has been narrowly defined and theorized from an architecture and planning perspective. And even though land use has been a lightning rod for political debate in Okinawa for the past seven decades, no critical analysis has located Ryudai within this conversation. Why did the urban form of Ryudai coalesce into such a cohesive ensemble of modernist buildings? How did the buildings, topography, and landscape evolve along with the social dynamics of an academic and civic epicenter? How was this design aesthetic linked to Ryudai's educational philosophy within and beyond the boundaries of Shuri-jo? By exploring how Ryudai was shaped and formed in the two decades after the war, a more in-depth understanding of its genome of place becomes apparent at the Shuri-jo campus, and in the other satellite locations spread throughout the community. By generating a series of urban design drawings and photographic analyses within a BASEmapping framework, the complexity of the Ryudai campus will be disentangled and contextualized across space and time.[263] Icons are easy to identify at a glance, but understanding their full impact requires deeper contextual analysis.

Okinawa: A Militarized Environment

In his book about French battlefields of the late nineteenth to early twentieth centuries, environmental historian Chris Pearson traces the relationship between war, militarization, and the environment. Rather than offering yet another military saga or political drama, Pearson looks at the opposite end of the spectrum, at the unnoticed, even invisible elements that are impacted by war, which he calls "environmental blank spots."[264] There are probably slim chances that his

book will be made into a Hollywood blockbuster, since he chooses a military subject that is markedly less dramatic than personal or political conflict, and does not rely on twisting plot lines. Yet he provides a valuable contribution to a deeper understanding of the impacts of war long after the last shot has been fired, by producing a thorough analysis of "militarized environments." Pearson regards these sites as both materially and culturally influenced by conflict, and offers the following definition to sharpen our own vision towards similar conditions:

> Using a broad definition and thinking globally, militarized environments might encompass food supply chains, wartime manufacturing sites, military roads, military recruitment centres on town high streets, and checkpoints in areas such as the West Bank, as well as military bases, battlefields, air bases, navy bases, and fortifications.[265]

If we apply Pearson's definition of militarized environments to mid-century Okinawa, it is clear that the impact of the horrible battle continued for a long time after the Americans and Japanese signed the formal surrender papers at Kadena Air Base in 1945. To this day, the American military presence remains a constant fixture in Okinawa with no signs of ever departing. Likewise, it is also clear that the impact of the battle extended well beyond actual combat locations. In fact, most modern Okinawan studies focus on the American military's unilateral expropriation and control over private citizens' property, to accommodate bases and related installations.[266] The military has had a long reach across the island, and has justified their large-scale control by linking military improvements with civilian improvements. Military bases would protect Japanese citizens from communist threats; new roadways would be used by both military and private vehicles; energy and water infrastructure systems would bring state-of-the-art water and electrical systems to bases as well as towns; port facilities would enhance military

access as well as promote commercial uses; military bases would also improve economic development and quality of life for Okinawans. Since the military government controlled both the construction process and the approval process, public works could be expedited with speed and efficiency, even if it compromised environmental impacts.[267] The mass grading of land and production of raw building materials, for example provided a perfect opportunity to test how machinery and explosives could be adapted from wartime to commercial use. (Figure 68) While these projects were central to enhancing macro-level infrastructure systems, their unintended consequences would not be understood for decades later.[268] (Figures 69 and 70)

Pearson notes that, in general, many postwar sites experience a gradual transition away from empty war-torn environments toward public-oriented environments where active military presence is dissolved.[269] Hein's analysis of occupied Japan affirms that this was America's articulated policy for the mainland: "Under pressure from the Supreme Commander for the Allied Powers, General Douglas MacArthur, and the occupation administration, Japan underwent a 'revolution from above', aimed at creating a demilitarized and democratic Japan."[270] For Okinawa, however, MacArthur had different ideas. As ambassador to Japan, he was able to navigate both diplomatic and military channels to lay the groundwork for instituting a strategic foothold at Asia's doorstep, by using the threat of another potential war to justify the formation of a militarized colony.[271] In order to display the full force of America's Cold War democracy upon the world stage, it was in MacArthur's best interest not to gradually dissolve the visibility of a militarized environment, but to amplify its presence and power.[272] Arguing along the same lines, Sarantakes also points out that America aggressively defended a robust presence in Okinawa because of uncertainty of Japan's dependability as an ally during the Cold War: "In a time when neutrality was seen as serving only the interests of the enemy, something had to be

done about Japan. Keeping Okinawa was that something. Americans were using the island to hedge their bets on Japan."[273] While the U.S. State Department supported a military role in Okinawa, they did not support the idea of maintaining a long-term U.S. colony in Asia. State Department officials concerned over prolonged American rule of a populated foreign land argued that it "ran counter to traditional American policies of self-determination, anticolonialism, and democratic government."[274] As for the Okinawans, Ota explains that "people resented the fact that Okinawa was the only part of the Japanese Empire … to be detached and placed under foreign military forces."[275] Robert Schwantes, a high-ranking American diplomat in Japan during the 1950s, admits that America was wandering into unknown territory during the occupation of Japan: "Cultural contacts with foreign peoples may have great psychological value for individuals, but their political implications are not clear. We are not really sure what will be the total social effect of techniques and ideas transplanted from one culture to another."[276]

One thing that both the State Department and the Joint Chiefs of Staff could agree on, however, when it came to Okinawa was education. In addition to war-related damage, typhoons ravaged the educational infrastructure and elevated it to a top priority for Americans and Okinawans alike. (Figure 71) As expressed by Major General C.K. Gailey to the U.S. House Appropriations Committee, "The investment is probably one of the most rewarding forms of assistance that the U.S. could extend to the Ryukyus."[277] In his detailed account of the history of postwar education, Gordon Warner reports that in 1950 "A number of joint meetings were held among the educators, Okinawa Gunto Government authorities, and U.S. military representatives on the urgent need for construction of new classrooms."[278] In a speech at Ryudai that same year Governor Taira declared that there was need for a total of 3,484 classrooms to house the

increasing numbers of young students properly."[279] Figure 72 illustrates the "before and after" condition of one school site, which captures the general relationship of prewar and postwar educational buildings in Okinawa. The prewar building is a simple wood-frame one-story structure with traditional gable clay tile roof and sliding window shutters. With a second building in the foreground, a courtyard space is implied where there would be gardens and playground areas.[280] A row of several bicycles are parked just outside the classroom, hinting at the primary mode of transportation for most students and teachers of this period. As one small but potent symptom of the militarized environments that Pearson describes, a primary mode of transportation for this particular location would have been partially disrupted because the bicycles were separated from their owners and many of the roads were in no condition for bicycles.[281] Yoshio Shimoji recalls that "When the refugees were allowed to return to their 'home' anywhere between several months and two years after the end of the war, they found their old village and towns reduced to rubble. Sometimes whole areas were fenced off to make room for the occupation army's camps and stations."[282] Figure 73 illustrates a common scene of Naha during the 1950s when many roadways were widened, paved, and integrated with major subsurface infrastructure systems, which could later handle an influx of new automobiles as well as military equipment. In the interim, however, moving from one place to another in the Naha region was extremely difficult, especially for those without any mode of transportation. And once the expansive road network was in place, new buildings followed the spread-out corridors, and Okinawa quickly became an automobile-oriented environment, encountering all the benefits as well as problems that came along with this new reality.[283]

In contrast to the traditional island school, the new high school classroom building shown in Figure 72, completed with assistance from American funds, is a two-story concrete building

with flat roof and partial *bris-soleil* screen on the window wall. Similar to other postwar buildings, the façade is composed of a number of surface articulations including a recessed building ground level with a simple arcade, which became a common architectural feature in many buildings throughout Naha. No landscape or site reference is implied here, nor is any contextual relationship suggested with other buildings. This represents one of the many school buildings that were rapidly constructed to meet the needs described by Governor Taira, which followed a kit-of-parts design solution with slight modifications to the same prototype.[284] Journalist Hope Diffenderfer's article "The School without People" indicates just how important education was to Okinawa's postwar reconstruction initiative. Her story profiles the philosophy and foresight of a community that decided to build a new school as the first building of a new village, even before any other houses or commercial buildings were developed.

> On a knoll overlooking the China Sea, and surrounded by pine trees and banana trees, we found the most modern building that we yet have seen in the Far East. It is an eight classroom school, with three buildings of concrete block construction, and with white plaster interior. The enormous floor to ceiling windows on two sides of every room provide constant cross ventilation, and make artificial lighting unnecessary. I have been in the education business for fourteen years, and have seen many school buildings, but I'd put my stamp on the fact that this is a first class building in any country…. (The Okinawans) claim that a proposed village site must have a school, then, with education assured, people can bring people into the area.[285]

Despite the anonymous relationship to any specific site condition, or even absent an entire village, the overall design solution of these new school buildings marked a new chapter in Okinawan architecture. Based on archival documents, it appears the engineers from the U.S. Army's Okinawa District Engineer department, and USCAR real estate/property divisions led

the design and engineering efforts for the school construction program, in collaboration with a fast-growing Okinawan support staff and local construction companies.[286] Following USCAR's prescription, the buildings were simple, modern, concrete structures designed to respond to basic sustainability criteria that were appropriate to Okinawa's climate. The basic building modules and design vocabulary established by USCAR provided a flexible architectural approach that could be adjusted to various site conditions, typically by government engineers and private construction companies. Density was achieved with a two-level structure; typhoon-resistance was achieved with the durable concrete material; solar shading and rain protection was achieved with overhangs, screens, and setbacks; thermal comfort and energy systems were addressed with reflective surfaces, passive cooling, and improved insulation.[287]

The construction blitz of primary and secondary schools after the war mirrored American designs to also overhaul the educational philosophy in Japan as well. With the U.S. military empire controlling policy decisions in Okinawa, the shattered school system was primed for a complete makeover. Warner describes the teaching approach that Americans were focused on changing: "The instructional techniques at the Okinawa Normal School were primarily based on the Japanese lecture system. In too many cases, the instructor merely read from notes without requiring active participation by class members except as listeners."[288] In addition to the school construction program, extensive teacher training programs were put in place to support the growing student population, and by the end of 1953 USCAR officials claimed that the Japanese education system had been revolutionized, replaced by a superior American version: "As a result, the democratization of education in Japan had been carried out with a promise of a bright future for the school administrators, teachers, and the school-age children."[289]

In addition to encouraging a more active, participatory learning environment, U.S. officials also had strong opinions about what would be taught in those classrooms. Since a primary motivation of the early postwar period revolved around resuscitating basic civil systems such as food, shelter, transportation, and communication, the new curriculum reflected similar skill sets. In a 1951 address to members of the Education Department and Okinawan politicians, Dr. Nelson of the Information and Education Section of HQ, SCAP stated, "Education on Okinawa must place an emphasis on domestic work and agriculture."[290] In addition to the humanitarian motivation, Sarantakes argues that a second reason the U.S. fostered education was to enlighten residents against the evils of communism, noting one USCAR official's crystal clear message: "The influence is for the sale of America and free world ideals."[291] An educated population would also promote self-sufficiency, thereby lightening the burden to U.S. taxpayers: "An educated citizenry is essential to develop in the Ryukyuans the ability to assume an increasing responsibility of self-government."[292] Perhaps most importantly, rehabilitating Okinawa's education system reflected the interests and desires of the local population. Yoshio Shimoji points out that local leaders envisioned a continuum of education and that "it gradually became apparent among educators and administrators that there should be a college-level institution above (primary) schools and the newly started high schools which would soon be sending their graduates out into society."[293] Not surprisingly, different sources credit different individuals as key to conceptualizing the idea of a new university. Warner's history of education states:

> The idea of creating an institution of higher learning for the Ryukyuan people had been discussed in the early days of the U.S. Military Government here. In 1947 the first formal proposal was made by a Colonel Stuart, then Director of Education, U.S. Military Government. This plan was concurred in by the Deputy Military Governor on Okinawa

> and forwarded to HQ, Far East Command, in Tokyo, for final approval. The plan was finally approved in 1948. As the new Director of Civil Info and Education, RM, Dr. Arthur E. Mead, further developed the plans for the new university.[294]

Yoshio Shimoji, on the other hand, links the initial idea for a new university even before the war, quoting a 1936 resolution of the Okinawa Prefectural Assembly, which was later revived by GRI Education Director Yamashiro. Shimoji writes that:

> Yamashiro advanced his initial plan to MG's director of Information and Education Department, Col. J.C. Stuart. At first, Stuart was dubious, but at Yamashiro's insistence he promised to take the matter into consideration. In about 1947, Stuart told Yamashiro that a junior college could start on April 1, 1948 and requested a report on a possible site of the college and persons available for faculty posts.[295]

Perhaps Warner's sentiment synthesizes the overwhelming support that emerged from both American and Okinawan camps: "The will and spirit already demonstrated by the people gave promise of continued progress and development in the future. The establishment of the University of the Ryukyus represented the culmination of the efforts of many people."[296] As the idea for a new university gained political support, funding, and joint U.S.-Okinawan cooperation, more concrete plans took shape to develop the iconic venue for Okinawa's new educational system. The most important decision became where to build the new university, and all eyes turned to the ruins of Shuri Castle.

Theorizing Place: Replacing the old with the new … with the old

Consistent with USCAR's regular practice of documenting the changing conditions of Okinawa, a series of aerial photographs reveal the extent of damage inflicted on the Shuri site during the war. (Figures 74 and 75) In fact, the site appears nearly unrecognizable in one particularly vivid photograph dominated by pock-marked bomb craters blanketing the site where the castle and gardens once existed. (Figure 76) Ground level photographs further document the severe damage following the "Typhoon of Steel," which reduced the site to ash and rubble. (Figure 77) Given the annihilation of Shuri, it is no surprise that military personnel such as M.D. Morris saw little hope for the future of Shuri: "I doubt if the castle or the surrounding village shall ever be rebuilt."[297] After the smoke had cleared and much of the debris cleared, however, Okinawan and American officials expressed a more optimistic attitude toward the war-torn environment. In December 1948, Brigadier General John H. Weckerling, inspected the ruins of Shuri Castle along with Arthur Mead and Atsuo Yamashiro to consider the site for the university campus.[298] According to Shimoji, there was general consensus among Okinawans and Americans alike that Shuri Hill was the most appropriate location for the new university: "Shuri Castle had not only been center stage for Ryukyuan government, but it had also represented the cultural and scholarly heritage of the Ryukyu Kingdom over several centuries. The three men hoped the new university would function likewise."[299]

What was it about this place that enabled it to avoid the fate of the military bulldozer? With the historic buildings and lush gardens eviscerated, the raw corpse of Shuri blended into the rest of the worn-out landscape. Like countless other geographic locations in Okinawa, military

personnel and equipment removed the detritus that covered the island after the war, but for some reason they stopped short of mass-excavation and site preparation for some other military or commercial use. Why not level the landscape like most everything else in Naha and start over with a new slate? A *tabula rasa*? What value could the site possibly have once its principal assets had been destroyed? What was it that compelled local leaders and Americans to not only rebuild on the site, but construct the island's most important icon?

The decimated site of Shuri-jo may have appeared to bureaucrats like M.D. Morris as a *tabula rasa*, ready to be leveled along with the rest of Naha's war-induced rubble. But Sylvia Ostry's interpretation of Tokyo's postwar rubble represents an important perspective to consider within the context of Okinawa. While vast areas of Naha and parts of Tokyo were indeed cleared for future buildings and infrastructure, certain areas like Shuri-jo were protected from further destruction and demolition because of the cultural significance of what once occupied those sites. These battered landscapes were not generically treated as a *tabula rasa* because deeper cultural meanings were at work that transcended USCAR's typical real estate criteria. The Shuri castle had been the preeminent symbol of Okinawa until it was destroyed by Allied bombing. After the war, however, its topography and materiality remained intact even if the architecture had been decimated. The imaginary of Shuri-jo survived along with the remaining residents of Okinawa after the devastating war.[300] The basic checklist of property size and features used to assess land use was trumped by some other set of cultural values that remained intact in the new Okinawa. In order to further unpack these issues and to theorize a more profound reading of Shuri, I ground my own interpretation within the broader scholarship of cultural ecology. As a starting point, geographer John Agnew provides the basis for a conceptual

foundation by defining two important terms that are crucial to a establishing a spatial understanding of Shuri:

> In the simplest sense place refers to either a location somewhere or to the occupation of that location. The first sense is of having an address and the second is about living at that address. Sometimes this distinction is pushed further to separate the physical place from the phenomenal space in which the place is located. Thus place becomes a particular or lived space. Location then refers to the fact that places must be located somewhere. Place is specific and location (or space) is general.[301]

The hand-drawn "New Map of Naha" features a special detailed section for Shuri, illustrated with streets, but also with a few select buildings and landscape features of the castle-university site. (Figure 57) As such, the map detail elicits visual representations of both space and place, as it relates to Shuri. The castle site represented available land on which future buildings could be located, but it was also charged with powerful memories of what existed on the site prior to the war, along with dreams of what could be constructed for future generations. Further analysis of the map's labelling style alludes to prior and current uses, revealing a sort of "in-between condition" of the community's evolution, with new uses labelled side-by-side with Sho-era uses from centuries earlier. The "Univ. of the Ryukyus" is next to the "Ruins of Shuri Castle;" the "Ryudai Gym" is next to "Ryutan Pond;" and the "Josei Primary School" is next to the "Gate of Shurei." Robert Sack's theory on territoriality offers a useful approach for making sense of the layers of spatial meaning implicit in the Shuri document: "Territoriality is intimately related to how people use the land, how they organize themselves in space, and how they give meaning to place."[302] Sack goes on to describe that relationships between people with each other and the land continuously change over time. This particular slice of time in Shuri's

evolution clearly touches many different actors and agents of change, spanning nations, class, religion, and politics. Bruno Latour's Actor-Network-Theory (ANT) represents a potential model for tracking these "complex and elusive" qualities of space and place that Sack describes. Latour's ANT prescribes a dense theoretical approach that incorporates a wide array of variables that define place relationships: "It is perfectly true to say that any given interaction seems to *overflow* with elements which are already in situation coming from some other *time*, some other *place*, and generated by some other *agency*." [303]

Despite the site's acropolis-like appearance that is represented in most drawings and photographs, this new found map portrays an integrated relationship of site to community that reflects Latour's holistic approach to place.[304] Shuri castle has been regarded as an iconic landmark for centuries, physically and symbolically elevated above the surrounding villages. But that did not automatically mean that the territoriality of Shuri was completely detached or insulated from surrounding businesses and neighborhoods. Likewise, the new university was located on top of a monumental acropolis, but the campus territory extended outward into the community. In fact, both Shuri and Ryudai were important community landmarks that were intimately ingrained into larger community systems, consistent with Massey's theoretical view of place beyond place. That is, Ryudai's rapid construction and attraction gained its own kind of gravity, attracting students, faculty, politicians, international visitors, and journalists to discover what was happening on top of the hill. But that same gravity garnered enough momentum to send ripple effects outward to Tokyo, Washington D.C. and – more pointedly – to China and Russia, as the U.S. military had hoped. As more buildings appeared on the acropolis and more students enrolled, Ryudai grew to be America's calling card for the Cold War. Ironically, it also grew to be Okinawa's ticket to prosperity and independence from American military rule.

Sack's analysis on place explains that territoriality reflects this multiplicity of social and spatial relationships but it also records historically sensitive uses of space, "especially since it is socially constructed and depends on who is controlling it and why. It is the key geographical component in understanding how society and space are interconnected."[305] The university's charter articulates a grand vision for the Shuri site meant to foster aspirational democratic ideals that prioritize outreach and service to the larger community:

> The University of the Ryukyus was established in 1950 to meet the demand of the whole people that it shall be the mainspring for creation of culture, rich in individuality as well as in universality, from which a new energy and a new light may flow into every corner of the Ryukyu Islands. The ideal of founding the University of the Ryukyus is to train people, who shall love truth and justice, esteem individual value and be imbued with the independent spirit, as builders of a democratic society, to render services to the development of the society, economy and culture of the Ryukyus, and to contribute to world peace and the welfare of mankind.[306]

The articulated visions for the new university stated in various speeches by local leaders and military officials, together with the aspirations of the university charter, represent a critical component of Sack's theory of place and space. He argues that geography is constitutive of natural causes and social power, but puts special emphasis on the intellectual realm of understanding a site's uniqueness: "Questioning the meaning of the landscape raises the general problem of surface and depth or appearance and reality. Is the site real, or is the real something beneath the surface? This questioning of surface and depth, appearance and reality, is the third means by which place and space have an effect." Yi-fuTuan's well-known writings on place theory also argue for an intellectual conception of place that introduces notions of symbols and metaphors, as vehicles that "enrich and deepen the meaning of an image by marrying it to

another."[307] Tuan explains, however, that there are varying degrees of perception and understanding associated with place: "A sign is an aid to action. An affective sign elicits an imaginative and emotion-tinted response. A symbol encapsulates and nurtures an idea or a set of ideas." In the case of Okinawa, soldiers would post "off limits" signs throughout towns and farms to control access; in Tuan's model, this is a first-order sign that imparts clear information. (Figure 78) USCAR officials would share American ideas and values with Okinawans with curated exhibits at community kiosks; this is a second-order, emotion-laden message stimulating or repelling the imaginations of viewers. (Figure 79) A rescued bell from the rubble of Shuri Hill imparts powerful cultural memories and identity; this is a third-order symbol that transcends the current moment in time, celebrating past heritage and arousing reveries of the future. (Figure 80) All three of these typologies are evident throughout the Ryudai context, emphasizing the fact that civic-ness can operate at multiple levels. Sometimes the visual codes are obvious and iconic; other times they may be more elusive, playful, surprising, and nuanced.

In Ryudai's 50th year anniversary book, a prominent page displays a 1951 USCAR aerial photograph of the university, depicting the very early stages of construction. The top of the ridge, where the main quadrangle was located, appears as if it was shaved off by a giant razor, the whitened ground and buildings set off in sharp contrast to the darkened landscape which had already begun its period of floral regrowth. (Figure 81) The 1953 photograph, positioned just below, zooms in on the central quadrangle, inscribed by a looping road and an axial compass pattern of sidewalks marking Okinawa's new centroid of culture and learning. This image provides us with a fuller appreciation for theoretical descriptions by Sack, Tuan, and Latour that describe place as "constantly in flux." Change was a fact of life at Ryudai, which followed an aggressive fast-track construction schedule in order to quickly establish the symbol of higher

education in America's fledgling colony. Here we see the messy, chaotic, frenzied reality that lie behind MacArthur's patriotic decree for the university:

> The University will stand as a shining light of the future … It is hoped that this University will stand as a protector of the peace and try to achieve free education so as to conserve our rights from the powers who would make us slaves.[308]

Here we also witness the paradox of MacArthur, the man behind the destruction of Okinawa now transformed into the man behind the salvation of Okinawa, pushing hard with his new agenda of soft power. In his fascinating chronicle of a devastating mud volcano in Indonesia, Phillip Drake provides an important perspective that furthers the theorization of Ryudai's dualistic demolition and reconstruction. In the devastating mudflow event, there was no single actor responsible that could be singled out. Rather, Drake expands upon Latour's theoretical view that such events are a "socio-natural hybrid, products of the participation of innumerable actors and agencies."[309] In other words, the destruction and reconstruction of Shuri cannot be traced to a single individual, even someone as iconic as MacArthur. Neither may it be traced only to John H. Weckerling, Arthur Mead, or Atsuo Yamashiro, even though they receive credit in history books for selecting Shuri as the site of the new university. Yes, the Shuri site appeared naked and exposed after the war, but its underlying geomorphology and site features remained intact.[310] As Sack reminds us, "Place depends on people, who construct and organize it. In these complex ways, self and place are themselves mutually constitutive." Despite the virtual erasure of its buildings and gardens, centuries of history, ritual, and identity coalesced to maintain a powerful *genius loci* that is intimately connected to both natural and human constructs. Drake's insight to navigating the complexity of the Indonesian disaster was well-

stated: “Criticism must therefore tease out the ideological entanglements that contribute to the formation of conceptions of nature, clearing space for analysis of human/nature interactions without overcoding these categories with biases or essentialisms.”[311]

Understanding Shuri-jo and Ryudai

Creating a systems-based model that could span the “personal or planetary scale” was an objective of Meadows, with her World Model; it was also built into the elaborate network of Fuller’s World Game. John A. Hannah, the charismatic president of Michigan State University (MSU), advocated a similar aspiration for higher education through his land-grant philosophy which promoted progressive reform in rural and underprivileged communities, both in America and abroad. In her paper “The World is Our Campus,” Mire Koikari provides an in-depth analysis of Hannah’s educational platform, beginning with his 1961 speech of the same name. Koikari theorizes that MSU became an important player in “cold war politics in which domesticity, multiculturalism, international education and military expansionism became linked to produce a series of complex and convoluted dynamics.”[312] MSU’s role with international education grew along with Hannah’s role on several high-level public agencies and commissions. Like MacArthur, Hannah exported his vision of the American ideal by using the vehicle of Nye’s “soft power” to position democracy against communism. Koikari identifies a 1956 trip to Asia as a critical advancement toward this effort, in which Hannah argued that “to ensure America’s survival” it was not enough to defend Asian countries from communism with our military, our food, and our money. Rather, an alternative approach to “help other nations help themselves” through education would help to stabilize the arc of defense in the Pacific Rim.[313] Hannah aggressively pursued the Ryudai assignment with the U.S. Army, beating out several other U.S. universities to “sponsor a complete university.”[314] In June, 1951 Hannah

"accepted the contract on behalf of his college," and by September "the first group of MSC advisors arrived at Shuri for duty."[315]

Even though the American military government had been in control of Okinawa for six years prior to the arrival of the MSU group, few publications outside classified military documents had been produced to give additional knowledge about the island. One of the few documents published just after the war was Army Officer William E. Jenkins' *Okinawa Isle of Smiles: An Informal Photographic Study.*[316] A photograph from the MSU archives captures an illuminating moment of Professor Ellen Densmore posing with Dean Glen L. Taggert in what appears to be final instructions prior to her journey to faraway Okinawa and the University of the Ryukyus. Figure 82 maps the relative locations of East Lansing, Michigan and Naha, Okinawa on the left, along with the image of Densmore and her MSU colleagues on the right. Densmore holds Jenkins' book in one hand, and a map of the island in the other, most probably listening intently, with her mind spinning in anticipation for what she was about to encounter.[317] Upon arriving at Shuri, MSU professors Milton Muelder and Ernest L. Anthony immediately wrote to President Hannah to share their initial impressions:

> First, Okinawa is a different world to anything you can imagine. The military developments are astounding both in type and scope and have made strange conditions and extreme changes in the mode of living and problems of readjustment of the people…. If you could be here and see how food, clothing, and many other things are handed out to the people almost without regard to cost or need and on the other hand see how vitally needed land is taken away from people for all sorts of use not for the people. And also how people, whole villages in fact, are picked up and moved about almost overnight you can see how easily these people can be offended and their loyalty lost and how hard programs such as we are starting may have a slow start …[318]

The impressions of Okinawa that Muelder and Anthony described were also expressed by many of their Michigan colleagues. Figuring out where to live, how to move around, how to communicate, and how to engage with their new Okinawan counterparts was a tall order: "time was … needed to become accustomed to a subtropical climate and an oriental environment."[319] They also learned quickly that they must operate within the military's structure in order to accomplish anything: "We have disentangled the lines of the military government …. Organization charts as usual are misleading…"[320] One interpretation of the emerging group dynamics is that the MSU group was isolated between two vastly different cultures, that of the U.S. military and the fledgling Ryudai academic community. An alternative reading is that the MSU group was aligned toward either the academics of Ryudai or the Americans of USCAR. A third reading is that the MSU group operated somewhere in the middle, in a hybrid condition that evolved together with the physical transformation of the campus. The latter is one that is consistent with Hannah's globally-minded MSU, an institution regarded for not only providing an excellent education, but also as one capable of executing major building campaigns and agricultural programs as well.[321]

Journalist Russell Mawby described Hannah as a kind of international farmer: "He had chickens and he had fruit trees and he had cattle. That was his therapy. Instead of playing golf, he went over and talked to the chickens." Also, Hannah was constantly building and developing MSU: "We used to say the concrete never set on John Hannah's campus."[322] In fact, it is striking to compare the similarity in MSU's building boom with that of Ryudai during the 1950s and 60s, including a similar stylistic trajectory into modern architecture.[323] (Figure 83) As an extension of Sack's argument that self and place are mutually constitutive, the same concept holds true when amplified to the scale of community and campus – specifically to a transnational

community and a multi-layered campus.[324] To describe the territoriality of Ryudai based upon my BASEmapping model, I will perform a series of spatial analyses of Ryudai within the dual-window dashboard described above, similar to the Densmore scene in Figure 82.

Figure 84 illustrates the "New Map of Naha" again, this time set into the BASEmapping framework and juxtaposed with a captivating USCAR aerial photo of the campus (c. 1951). This condition simulates the view of Shuri that Muelder and his MSU team would likely have seen as they descended in the U.S. Air Force cargo plane over the city of Naha. The Shuri bluffs rise sharply on the south face before flattening out into a plateau where the new university buildings have begun to sprout. The image in the right frame changes in Figure 85, this time zooming into the campus quadrangle to illustrate the brand new administration building and temporary classroom buildings – the site is still raw, with dirt roads and no landscaping, lighting, or other streetscape furnishings. Historian Tze May Loo describes the bare nakedness of the postwar Shuri site in bleak terms: "The reality of the treeless landscape in 1958, where once the area had been known for its thick foliage that gave the castle an air of quiet and oldness, was jolting."[325] Like the MSU and Okinawan educators, the site is in transition. As a brief interlude, Figure 86 illustrates the current condition of Shuri, which more closely resembles the site prior to the war than the condition when the MSU group arrived during the 1950s.[326] The image also displays the level of craft and care associated with the Ryukyuan castle, a point that Obermiller argues was still fresh in the minds of both Americans and Okinawans when they chose to locate the university on the same site.[327]

One significant restoration that did occur in the 1950s was the rebuilding of the iconic Shurei-mon gate, the same one that Commodore Perry's party posed at in William Heine's 1853 lithograph.[328] Loo recounts that even though the *seiden* (main hall) was identified as the political

center, Shurei-mon was the more well known of the two, where "the common people could pass under the gate along the thoroughfare outside the castle walls, acting as a kind of threshold that connected royalty and commoners."[329] The resurrected presence of Shurei-mon also connected a cultural threshold connecting Okinawa's dismal postwar existence to a rich past, inspiring hopes for an optimistic future, sentiments expressed by American and Okinawan officials during the formal reopening ceremony. Loo's description of the significance of Shurei-mon explains how even a small piece of architecture has the power to mobilize disparate groups and politicize the meaning of place:

> Casting the rebuilt gate as original leapfrogged back in time over the period of Japanese incorporation of the islands after 1879 and suggested that while the university physically replaced the castle, it was also in essence an extension of the castle in time. The implication was that the U.S. may be foreign, but it was connected to the islands as the executor of the legacy of the Ryukyuan Kingdom embodied by Shuri Castle to the further development of all Okinawan people through higher education. Linking the University of the Ryukyus to Shuri Castle also performed USCAR's benevolent and enlightened rule to help Okinawan people that contrasted positively with Japanese indifference and discrimination in the prewar period.[330]

The commentary of Loo, as well as the sentiments expressed by officials during the reopening ceremony, implies that even though the gate was newly built, it was still "authentic" and had meaning because of its trueness to the spirit of the original structure. Part of this authenticity was created by accurate construction materials and techniques, as well as rebuilding on the same site. In a contrasting situation, USCAR advisor George Kerr recommended the rejection of a Shuri castle-inspired design for the proposed GRI Museum, in favor of a decidedly modern architectural style. Kerr, a historian, did not dislike historic Ryukyuan architecture, but

did not believe the project was staffed with technically capable architects and builders, did not have proper funding, and was not conducive to a contemporary museum program. As Loo points out, Kerr also noted that 'from a historical point of view, the only proper place for a replica of the hall is on its original site."[331] The Shurei-mon gate project, however, did have sufficient funding, political support, and technical guidance, under the leadership of Nakaza Hisao, a Japanese architect who also designed the modern version of the GRI museum. Naoki Isobe's analysis of Hisao indicates that he was capable of designing both traditional and modern styles of architecture, and also was one of the few architects working both in Japan and Okinawa at the time.[332]

Hisao's designs for two of Okinawa's most important mid-century projects, Shurei-mon and the GRI Museum, mirrors a similar design philosophy that was emerging at the same time in Tokyo. Kenzo Tange, one of Japan's most famous architects, led a group of progressive designers to found a philosophy they called "Metabolism," which they employed in their grand quest to rebuild a war-torn Japan.[333] Hans Ulrich Obrist describes their aim as "an ambitious vision of accelerated urbanism and advanced technology existing in parallel with an untainted nature – a techno-utopia."[334] One of the Metabolists' paramount emblems was the Ise Shrine, which reemerged in Japan's collective conscious as the preeminent Shinto shrine and symbol that connected the past with the future.[335] (Figure 87) Tange describes that the temple, rebuilt on the same site approximately every twenty years with new materials, as the key to understanding that "tradition by itself cannot function as the driving force for creativeness, but it always bears within itself the chance to stimulate creativeness."[336] Tange's elegant concrete and glass architecture was suddenly placed within the same conversation as the centuries-old wood and tile temple, not in opposition but in concert with one another.

While it is not reconstructed every two decades, the restored Shurei-mon gate, juxtaposed with Ryudai's modern building campaign, also connects traditions of the past with visions for the future, in ways sometimes unpredictable, sometimes bold, sometimes awkward, but almost always interesting and exciting. The rapid pace, challenging site, and adolescent design and construction industry led to solutions less refined than those consecrated by Tange and the Metabolists. But the design of the Ryudai campus focused transnational ideas and tensions in a highly contested physical space, and opened up provocative questions that resonated with Metabolism's profoundness of how to rebuild a broken culture, by reconceptualizing place through new forms of architecture. It is worth noting that the physical location of the Shurei-mon gate does not lie at the center of the campus quadrangle, but on the edge of the site's steep bluff. This condition introduces a spatial construct of duality that will become evident with subsequent diagrams, revealing a tension between a centralized quadrangle and an organic edge condition. The detached location of the gate, long cherished as a civic threshold, signifies an interdependent relationship between Shuri and the surrounding community; the gate links center and periphery. Although the distinctive walls form an acropolis-like setting, further analysis of the site indicate that Shuri-jo is in fact very permeable and connected to surrounding natural and constructed systems.

Figure 88 illustrates the same current aerial photo base as Figure 86, but toned back with several color-coded numbers. The colors correspond to the four BASE categories listed at the top of the dashboard (Biotic, Abiotic, Social, and Economic). The numbers correspond with the illustration in the right window, which suggests that the one-kilometer site should be considered in three-dimensional space through a series of lenses that represent various natural and constructed systems.[337] Because most of our human encounters occur at the earth's surface, we

tend to view the world primarily at that level. As part of my previous work in theoretical ecology, I have developed a systems-based approach emphasizing the spatiality of place, which reconsiders Jefferson's square mile paradigm by suggesting a cubic mile paradigm. My interest in "three-dimensionalizing" Jefferson's grid is related to E.O. Wilson's collaboration with nature photographer David Liittschwager to document "one cubic foot" of biodiversity in various ecosystems. If Buckminster Fuller was collaborating with these two, he might have argued for a tetrahedron rather than a cube, but the point of their method is clear. This simple intervention is a compelling marriage of art and science to impart a unique reading of the natural world around us. By counting the number of organisms in a cubic foot module, Wilson opens our eyes that the "terrain they inhabit is not just a matrix of dirt and rubble. The entire ground habitat is alive. Living forms create virtually all of the substances that flow around the inert grains."[338] In fact, most of the biosphere is located at the surface or just below, occupied by visible flora and fauna as well as millions of micro-organisms. Wilson provides a dose of humility to our technological egos by admitting that "most of them are unknown to science." In addition to introducing a useful matrix for examining the systematic composition of our environment, Wilson and Liittschwager advance a step forward in defining a unique interpretation of cultural ecology with a kind of three-dimensional food web. Liittschwager's photographs are exquisite images of the diversity that largely escapes our visual senses. Compelling as they may be, Fuller's geodesic structures and Jefferson's grid appear separate from the plants, animals, people, towns, and landscapes that actually form those constructs. A cubic foot, or cubic kilometer, of insects and micro-organisms reminds us that if we are able to move past theoretical models and labels of sustainability, we will engage with the incredibly rich biotic and abiotic realms that are in constant flux with social and economic realms.

Figure 89 illustrates a prewar map of the Shuri area, indicating how the castle occupies a gently-arcing ridgeline along an east-west orientation that drops off to streams, ponds, and farmlands on the north and south sides. From a climatic perspective, this orientation minimizes the brunt of violent winds and maximizes solar gain with southern exposure. The primary and secondary imperial palace structures from the Sho-era have been superimposed onto the map, and the scalloped castle walls have been highlighted in red. The coded red circle with "S.7" refers to one variable or characteristic within the Social system. In this case, it highlights the main courtyard space and flanking buildings, represented to the right with a prewar photo of young men practicing karate in front of the *seiden* building. Although the photo is black-and-white, the fine craftsmanship of the architecture is clear and the monumental façade acts as an impressive backdrop for the activities that take place in the public space, creating a sort of stage set that can handle either passive activities or formal events like the one in the prewar photograph.

Figure 90 superimposes an early site plan drawing of the castle's buildings and walls onto the same aerial photograph, along with architect Hisao's preservation drawings that were commissioned in 1936. The finely delineated documents further illustrate the *Seiden's* classic proportions, modular wood structural system, and articulated detailing.[339] Fortunately, these drawings escaped damage from the war and proved to be vital to the accurate reconstruction of the complex in the 1990s, which was dedicated as a UNESCO World Heritage site in 2000. The World Heritage nomination document includes detailed descriptions of the architectural history of the three-story main hall of state (*seiden*), flanking northern hall (*hokuden*), flanking southern hall (*nanden*), central courtyard (*una*), stone walls (*aikatazumi*) and notes that "the state hall repeatedly burned down until it was reconstructed in 1715 and designated a National Treasure

(until) a war-caused fire reduced it to ashes once again in World War II."[340] So, like the Ise Shrine, Shuri had its own history of resiliency following catastrophic events, something that would prove to be important to the idea of how the site would evolve both during and after the Ryudai era. Figure 91 isolates and highlights the *aikatazumi* walls on the site plan, accompanied by Heine's lithograph of one of the many entry gates (*kankaimon*) into the castle, which captures the sculptural forms of the beautiful scalloped walls that gently blend into the hillside. Figure 92 shows one of Lt. Kowalis' survey photographs of the same location just after the 1945 bombing. The walls have been severely battered by Allied firepower, but the basic structure of the ground plane and bluffs remain relatively intact. This illustration also demonstrates how the same image of the *aikatazumi* walls take on greater contextual understanding by combining the same photo from Figure 77 with its location in the map on the left.[341]

Since Shuri-jo had been the political seat of power for centuries, it is no surprise that it was surrounded by a multi-layered patchwork of businesses, residences, schools, farms, and other community ingredients. Figure 93 locates Shuri-jo in a prewar aerial photo, and illustrates the character of surrounding farm-based villages with a U.S. Army Air Corps reconnaissance photo by the well-known "Blackie the Photographer." A noteworthy quality of this aerial scene is the tightly clustered residential zones that follow an organic street grid pattern, leaving the agricultural zone efficiently aggregated and close to farmers' houses and businesses.[342] The next diagram, Figure 94 isolates the building pattern within this same one-cubic kilometer area, and includes a freeze-frame image from raw USCAR video footage of a small Okinawan farm village. The simple wood framed structures and thick thatch roofs suggest that they are in a constant state of upkeep, repair, or even total reconstruction following the typhoons that regularly pass over the island. Here we see a manifestation of the Ise principles of reconstruction

and resiliency, but performed as a means of basic necessity rather than religious ritual. Figure 95 provides a different glimpse into a residential scene, this time with a wealthier family and more expensive house. A closer look at the figures in the photo show two young boys dressed in Japanese military uniforms, a harbinger for the dark days that lie in their not-too-distant futures.[343]

Figure 96 emphasizes the presence of the stone walls once again, not just around the castle grounds, however, but in the villages as well. Another lithograph by Heine portrays how the residential areas also incorporated smaller versions of the *gusuku* stone walls, which helped protect the houses from typhoons, created private garden spaces, and resulted in an attractive street environment that functioned as a linear public space.[344] Heine's view also indicates how the walls form a variety of semi-public spaces that are animated by individual entry portals, terraced gardens, and public gather spots. A woodblock by the famous Japanese artist Katsushika Hokusai from two decades before Heine's visit depicts an idealized Okinawan landscape, also characterized by pronounced *gusuku* stone wall enclosures around the village houses. Hokusai delineates the village configuration similar to Blackie's aerial photo of the farm village, with linear residential clusters tightly intermingled with agricultural and marine landscapes. The two natural and constructed systems appear inseparable, if not interdependent. Another captivating photograph by Blackie brings the artistic scenes of Heine and Hokusai to reality with his portrait of a village street scene that confirms the lively nature of the public street environment and intermingling of houses, gardens, and landscape. (Figure 97)

Something that the U.S. marines and infantrymen discovered all too well during WWII was Okinawa's rugged terrain and dense tropical vegetation. Figure 98 indicates how the natural systems extended from Shuri-jo, resembling green and blue tentacles converging into a central

nucleus. The image in the right window illustrates a limestone "pinnacle," a geological condition that is found throughout the island. A perfect cone-shaped pinnacle at Kadena Airfield is portrayed in a USCAR report, noting that "masses such as these are good quarry sites." The next figure shows the fate of many of these geological formations, supplying desirable construction material for the major infrastructure projects that took place in the 1950s and 60s. (Figure 99) The lower image of a Japanese military tunnel gives further insight into the variability of the abiotic geomorphology, as a reminder of the subsurface conditions within the cubic kilometer paradigm. Another WWII veteran who recently published an online collection of reconnaissance photos that were collecting dust in his closet was U.S. Army Lt. Robert Rock. Figure 100 presents another view of Okinawan farm villages in an artful composition of intersecting street grids and organic farm plots that resemble tectonic plates shifting across the landscape. Once again, Blackie's wartime photograph brings the scene back to reality, this time with a poignant view of infantrymen making their way between the tectonic farm plots and rice paddies, destination unknown. Figure 101 illustrates a view that these soldiers encountered throughout their treks throughout the island, which is peppered with the traditional "tortoise shell" tombs (*kamekōbaka)* described in Chapter Two. This vintage wartime postcard indicates a similar integrated wall-landscape relationship that the *aikatazumi* walls exhibit at Shuri-jo. Rather than tall, imposing structures, these walls are horizontal terracing platforms that step gently down with the landscape's topography. Okinawan families still visit these tombs for ancestral worship rituals, which are filled with an abundance of food as well as prayer and storytelling.

Figure 102 includes another pair of photos by Lt. Rock and Blackie, which portray a closer view of the personal and the spatial qualities of village life. Blackie's photo of an elderly

woman taking a break from her farm tasks alludes to the well-known work of Dr. Suzuki and his colleagues at the Okinawa Research Center for Longevity Science (ORCLS). Suzuki and co-authors Bradley and Craig Willcox have studied the legendary secrets of aging in Okinawa for the past 28 years, through internationally funded research and a best-selling book called *The Okinawa Program*.[345] Blackie's photograph of the elegant older woman and Suzuki's wisdom of successful aging mark an important insight – that traditional Okinawan lifestyle holds valuable lessons which we are still working to unlock and to apply. An analysis of Rock's aerial photo provides a small step in that direction by identifying the components of a residential cluster. In this view, the grouping is composed of six simple houses, interspersed by courtyard spaces and enclosed by stone walls and rows of dense foliage. Like Loo, Dana Buntrock's discussion of Japanese modernism retraces Tange and his counterparts back to Ise Temple, where she describes the concept of *sukiya* as critical to the integration of the traditional and the modern to create "complexes of buildings where attention has been paid to creating a unified sense of design in siting and in the architecture."[346] While the village scenes in the photographs of Rock and Blackie are a distant cry from the carefully manicured gardens of Kyoto, the harmonious balance between building, landscape, and ritual is evident, albeit at a more humble scale. Landscape architect Bixia Chen's field research of fukugi trees in Okinawa helps to conceptualize the notion of village-scale *feng shui*:

> To avoid wind, to have water, compass direction, and configuration of the surrounding hillsides are four factors for an ideal *Feng Shui* site. It is hard to seek a site which can meet all above-mentioned factors. Thus, ideal *Feng Shui* landscape has to be built or repaired rather than to find a natural perfect topography…. Ho:go is one essential word in the planning of a traditional *Feng Shui* village landscape in Okinawa Prefecture … meaning 'to embrace and protect' …. The word *Ho:go* also refers to a forest belt that encircles a house, a village, several neighbouring villages, or the coastline …[347]

In his text on *Sukiya,* Masao Kinoshita elucidates the basic principles found in the contexts of both village and tea ceremony, observing that we must "seek proper integration of Industrialization and Environment in order to find the basic harmony between Man and Nature."[348] This analytical exercise of understanding the *sukiya*-like and *feng shui* qualities of traditional villages would represent an appropriate opportunity to expand the BASEmapping tool to provide an in-depth inventory of critical factors that define their unique qualities. Figure 103 shows how one of these variables could be branched out with the mind-mapping software tool, populated by supporting documents, texts, images, Internet sources, and other data, in this case examining indigenous plants of Okinawa. Literary searches would reveal that a primary source for this topic would be the Sakamaki-Hawley Collection at the University of Hawaii. Further navigating of the BASEmapping tool would then link the inquiry to helpful documents such as Shozan's book of social activities set in gardens (1889) or Kaisai's scroll of floral pen and ink drawings (1762). As an example of but one strand in Shuri-jo's intriguing web of place, this exercise illustrates that any robust attempt to unpack its nuances will require a robust method such as the genome of place framework with linked image sources and narrative to navigate across time and space.

CHAPTER FOUR: Ryudai – An Urban *Champuru*

Design and Sustainability at the Shuri Campus of Ryudai

Once the decision was made to create a new university, what guided the decisions on its spatial quality and character? This chapter will address the design of the campus – the buildings and the spaces that were created by them, and how they helped form the cultural identity of the university and of Okinawa. More specifically, this detailed spatial analysis critically interrogates the activities that occurred across a wide spectrum of public and semi-public spaces like band stands, quadrangles, gardens, sports/recreation venues, parks, sidewalks, and roadways. How did the assemblage of architecture, public spaces, and social interaction function within the campus environment? How close did campus architects and engineers come to achieving the harmonious balance of *Sukiya* that Kinoshita describes, between, building, landscape, and ritual? Between natural and human systems? What were the cultural, spatial, and environmental implications of the campus milieu where tradition and modernism met head-on? Given the undulating topography and lush tropical landscape that quickly regenerated, initial building siting and configuration was critical for the UR campus. But who actually made those design decisions? The architectural drawings and manuscripts of Ryudai that are housed in the MSU archives have revealed at least some answers to these questions. By "BASEmapping" this data and other archival materials, fascinating insights into the architectural evolution and design ethos of the campus start to crystallize.

The Shuri-jo site has gone through multiple transformations over the past seven centuries. The constant destruction, reconstruction, reprogramming, and branding is unparalleled in

Okinawa. As such, it has become a quintessential palimpsest layered with various uses that continue to evolve as new economic and political powers become part of the long Shuri-jo story.[349] During the Ryukyuan era, it was a regal court restricted to high levels of society and important visitors. During the USCAR era, it changed to an academic campus open to all levels of Okinawan society and touted as a new symbol for the island's rebirth. During the post-Ryudai era, its architectural restoration resurrected the glory of Ryukuan aesthetics, but this time open to an international audience as Okinawa's most popular tourist attraction. How will Shuri-jo's rich history influence the iconic projects of the next century in Okinawa?

Chapter Three described how Shuri-jo and Ryudai were intimately connected to their surrounding context of natural and constructed systems. This chapter begins by shifting the focus to describe how Ryudai became the cultural epicenter of the community by virtue of its site location, intensity of new construction, programmed activities, and the constant flow of diverse actors who embodied the campus spaces. Chris Pearson's description of militarized environments encompasses a similar breadth, or "continuum," of interrelated systems. But the environments Pearson discusses are often invisible to those outside the military system, detached from every public life: "Due to geographical concealment and archival restrictions, many militarized environments remain 'blank spots'… even though they have shaped, and, in turn, been shaped by, wider historical developments."[350] In one of the few histories examining Ryudai's early development, So Mizoguchi describes how the military government controlled and used the university as a "pedagogy of democracy," which led to increasing tensions as students and educators became more independent.[351] Sarantakes also remarks that "the U.S. military controlled almost all aspects, such as systems and budgets, and also monitored content."[352] In other words, the U.S. military promoted the idea of Okinawan independence and

self-sufficiency in the decades following the war, so long as they could control how that independence was acquired and practiced.

But the military and the academic community were engaged with one another, at least at some level, and exercised their respective visions for the future within the dynamic territoriality of the campus environment. In other words, the campus was anything but a "blank spot" and was certainly not a static space. A better description may be formulated by reintroducing Mark Sutton's term of a "cultural ecotone," even combining it with Chris Pearson's "militarized environments" to consider Ryudai as a "militarized ecotone." Figure 104 illustrates where much of the activity was concentrated, in the main quadrangle space anchored by the university's administration building – their new version of the iconic hall of state building. The drawing in the left window superimposes the original campus layout onto the Shuri site to identify the comparative location and scale of spaces within each of the plans.[353] Although the *seiden* is significantly more elaborate than the administration building, the latter obviously takes cues from the former with its symmetrical façade and gabled roof, oriented axially towards a public forecourt. Describing the evolution of civic design in Japan, Neil Jackson's observation also fits the shifting visual discourse that was being played out in Ryudai's center court: "As public buildings they needed to be symbolic and it was around these buildings, and the architects who built them, that, in the 1950s, a debate on Tradition and Modernity developed."[354] Figure 105 celebrates this dynamic in Okinawa through the issuance of a special postage stamp illustrating the new administration building set in front of the silhouette of the *seiden*; its cancellation illustrates the Shurei-mon gate, also with the *seiden* in the background.

While archival research turned up several construction drawings of campus buildings, very little exists with regard to a campus master plan or even long term development strategies.

The most notable document is shown in Figure 106, a relatively primitive monochromatic drawing indicating general locations for the main campus buildings and infrastructure.[355] Other than scant references to the *aikatazumi* walls and the Ryutan Pond, little reference is made to landscape or site context, but the architecture and landscape can be seen through sequential aerial photography.[356] Figure 107 is one of many photographs of the university that are a normal part of USCAR's classified reports to Congress, included to demonstrate the rapid progress of the university, proving that American tax dollars were being put to good use. USCAR editors described Ryudai as "the center of learning in the Ryukyu Islands," as a punctuation point to the photo that shows a new cluster of academic buildings oriented around a central quadrangle space. MSU educators also joined in Ryudai's accolades, which were widespread. In a journal article published in the U.S., MSU Professor Alan Tucker commented, "During the first five years of its existence, the university has shown remarkable academic and physical growth. If past achievement is an indication for the future, we can expect that the University of the Ryukyus will soon take its place among the leading universities in the Far East."[357]

The initial curb appeal of the newly minted university was indeed impressive, and it photographed well. The arrangement of the new buildings and central quadrangle read as a recognizable academic space to lay persons and congressmen, as one could easily imagine it resembling what a classic college campus might look like. Most of the secondary buildings around the central space were in fact temporary, however, and quickly became a full course meal for local termites. While they served the immediate purpose to house classes and make the college look like a college, MSU's initial facilities report painted a disconcerting picture: "Classroom roofs must be repaired every year to prevent leakage. Termites and dry rot have destroyed main supports causing buildings to sag. Continued sagging causes broken tile in the

roof. Many windows can neither be opened nor closed because of broken supports."[358] Although the initial buildings sourced locally-available building materials, they lacked the solid engineering and craftsmanship found in vernacular precedents. Furthermore, the elevated plateau offered superior views of the surrounding landscape but also left the buildings exposed to the often-violent weather. Archival photos during the campus construction show overzealous engineers and contractors taking great liberties in "clearing" or "leveling" building sites, eradicating anything that got in their way. Unfortunately, this included fukugi trees and other dense vegetation that Bixia Chen describes in her informative landscape analysis of Okinawa.[359] Chen explains that "fukugi tree landscape is a planned cultural landscape on the basis of the *feng shui* concept in Ryukyu Kingdom," and one that had long been a critical element to shelter residents and buildings from the violent typhoons. But the protective layer of landscape to the new campus environment was neither recognized nor prioritized by Ryudai engineers and builders, who were under pressure to deliver a fast-track schedule of new classrooms, dormitories, and other academic buildings throughout the 1950s.[360] Despite clear excitement and pride in the university's quick start out of the gates, the physical side of Ryudai had gotten off to a rough start.

Several scholars, including Obermiller, Sarantakes, and Mizoguchi, call attention to USCAR's self-congratulatory tone that is included in its reports, an attitude that is flaunted even more in their mass media productions. Produced by the U.S. Army's Signal Corps Pictorial Center, the short propaganda film titled *Okinawa: Keystone of the Pacific* plays up the military's ebullience over their pet project. The eager narrator recounts the dramatic battle, followed by the immensely difficult rebuilding process, setting the stage for the U.S. military to arrive on the scene as benevolent saviors:

> Before the American occupation, there was not a single mile of paved road on Okinawa. Mud and dust trails were the only means of getting around. Heavy equipment was employed to tackle the difficult terrain and, as in all phases of the modernization program, local Okinawan labor was taught to operate it. This policy not only saved many millions of dollars to the American taxpayer but also gave the Okinawans a degree of know-how in handling modern equipment that they never could have attained in any other way. It will mean a better standard of living for the Okinawa of tomorrow and good will towards their American friends today. This friendly working together on a common project has paid one big dividend already. There is no fifth column on Okinawa, no fear of sabotage in time of emergency. The hard-working, willing Okinawans will stand by their American friends in time of trouble.[361]

The lyrical narrative of democracy in action was articulated in USCAR's legal documents as well as on the silver screen. To make sure the university's mission was clearly stated the Deputy Governor issued a public ordinance that echoed the *Keystone* message: "Education shall aim at the full development of personality, striving for the rearing of a people, sound in mind and body, who shall love truth and justice, esteem individual value, respect labor and have a deep sense of responsibility, and be imbued with the independent spirit, as builders of a peaceful and democratic state and society."[362] There is no shortage of cultural critics, including Sarantakes, Purves, Mizoguchi, and others, who pounce on this type of rhetoric to fuel their arguments for American imperialism in Okinawa after the war. I acknowledge these authors and their transnational theories of colonization, but do not intend to retread additional arguments in that arena. As demonstrated thus far, I position my contribution to postwar Okinawan discourse as a critical visual narrative that helps to articulate spatial qualities of those very discussions and debates. I am interested in formulating sources and tools that describe what Ryudai looked like,

felt like, and sounded like as it progressed through the incredible changes that the MSU educators and others described.

Figure 108, for example, captures the atmosphere of public events that took place in Ryudai's central quadrangle space. Image S.1 is taken from USCAR raw film footage, depicting a concert staged on a bright sunny day just in front of the administration building. The architectural images of the building from Figure 104 indicates an automobile drop-off in front of the building, which is elevated approximately 1.5 meters above the rest of the public space, accessed by a looping driveway. The band concert makes good use of the platform, which functions as a built-in stage that is visible to large crowds seated in the central gathering area. In contrast, the Shuri *seiden* was designed with a uniform ground plane and smaller elevated platform at the building's front door, sized more appropriately for the emperor and a smaller entourage.[363] Unfortunately, all the USCAR films that I viewed do not have sound, but one can almost hear and feel the pulsating military marches being belted out across the campus – perhaps a medley of *Anchors Aweigh*, *The Caisson Song*, *Off We Go into the Wild Blue Yonder*, and *The Marines' Hymn*? Additional video clips of the same source also show Okinawan musicians playing together with military musicians, for once not hampered by difficulties in speaking or understanding one another's language, but brought together by the common language of music.

The band concert could very well have been a featured act during the popular festival that the university hosted each December. Figure 109 highlights the front page of the *University Review* of December 3, 1966, which announces the 16th annual University Festival along with a birds-eye photo of the campus.[364] The accompanying article describes the purpose of the event "to introduce the University to the general public, and to contribute to the development of the community." The story reports that there are more than ninety clubs on campus, which will

sponsor fun activities ranging from a puppet show to a tea ceremony and a mock trial. The English Guide Club offered to "guide the visitors in English so that they can (also) enjoy the university festival." Below the fold of the newspaper, another article is worth noting, interviewing Seishiro Teruay, the incoming student body president. The headline summarizes one of Teruya's platforms, advocating plans to develop a student center that would accommodate the many clubs and other social activities. Because of the fast growth in Ryudai's student population, all of its building areas were dedicated to a necessary academic uses such as classrooms and dormitories, leaving no internal spaces for events such as the band concert or University Festival. In a letter written by MSU librarian Osamu Shimizu to a colleague, he offered his own dry commentary on the subject:

> The library is used far more extensively than is usual among universities in Japan. Out of a total enrollment of 2,100 plus, the Library reports a daily attendance of around 1,000. One reason given for the comparatively high attendance, perhaps jokingly, was that the students had nowhere else to go. There is no students' building, or facilities for extensive extra-curricular activities.[365]

Similar to the BASEmapping exercise from Chapter Three, which charts the *sukiya*-like and *feng shui* qualities of traditional village landscapes (Figure 104), a similar approach could be developed to provide a full range of descriptions for public space within the Ryudai milieu. Figure 110 expands a mind-mapping branch of the "Social" sphere to identify representative variables, including the built environment. The campus map on the left contextualizes where these social activities take place in the campus, highlighted by a red circle for reference. Within that mind-mapped branch, Public Space is included alongside Buildings, Infrastructure, and Landscape. The Public Space category might include a phylogeny that breaks down further into

Passive Use, Protests, Public Festivals, Sports-Recreation, and University Ceremonies. Because they are programmed as web-based mind-maps, these variables can be manipulated to link to other documents, cross-referenced to other variables, linked to quantitative spreadsheets, and embedded with hyperlinks to Internet resources. Recalling the cautionary advice of Meadows in her work with systems dynamics, this information is organized to be interconnected across subject matter with the use of computer technology. But it is not scripted to automatically self-generate complex patterns or algorithms on its own. This is an organizational and observational tool intended to manage and manipulate vast and complex amounts of data, but it still relies on human intervention and thought.

Image S.2 in Figure 108, for example, could easily be linked to a mind-map branch, in this case documenting Ryudai's ninth graduation ceremony which was staged in the same public event space in front of the administration building. This image reveals another spatial quality that is not perceptible in the site plan drawings or other photographs. The quadrangle space has another intermediate terrace connected by a set of stairs and planted berm. Approximately 800 people appear to be in attendance, including the VIPs, press, and the adventurous students perched on top of the roof of the Agriculture Building, who enjoyed a birds-eye view of the proceedings. In response to the lack of indoor public venue spaces, the stage includes a temporary canopy to protect important guests from the heat and possible rain storm. A closer inspection of the upper terrace reveals newly planted trees propped up by stakes, but the overall quadrangle is still devoid of any vegetation, even after nine years. Perhaps the ongoing construction or budget prioritization discouraged any serious landscape design beyond the decorative "beautification" that officials occasionally sprinkled around the edges of public

buildings. This is far different than the tradition of lush gardens from the former era of Shuri-jo, and a weakness of the campus that was never fully addressed.

Image S.3 of the same page reverses the angle of the graduation ceremony, presenting a view looking outward from the stage. In this view, the campus is shown in a transitional stage, still with some of the deteriorating temporary buildings, propped up by struts, and the new education building to the left. The three-story concrete building must have been a handsome addition to the campus for the students, as it dramatically changes the spatial qualities of the quadrangle by providing a sense of enclosure, at least on two sides. The speaker's microphone would have been an important feature to use in the space, which likely ensured that the attendees in the back row would be able to hear his words. A scan of the faces in the crowd indicate a disproportionate number of male students, all of whom are nicely dressed and seated at their classroom desks which have been brought outside for the occasion.[366] Image S.4 portrays another public event at the same site, in which U.S. military officers are greeted by what appears to be a university official or civilian administrator with USCAR. The audience in this scene is older and more diverse, suggesting that the occasion was possibly a political speech or official pronouncement. The last image is a striking photograph of a student gathering, with young men and women seated on the ground listening to a fellow student deliver a speech. The chronology appears consistent with the other public scenes, with some of the temporary buildings still standing and the new education building looming in the distant fog.[367]

All of these public events undoubtedly carried deep-seated emotions that were passionately delivered in a public space that encapsulated shared emotions and powerful memories that would continue to shape the university over the next several years. Figure 111 portrays one more formal ceremony at Ryudai, again with a group of VIPs seated up on the stage

area, flanked by the military band to the right. One other visitor, heretofore unmentioned, occupies the most prominent seat at the event: the beloved *shisa* is placed in a classic position, perched on the tiled roof over the front door, watching over the scene below. Consistent with Tuan's inclusion of symbolism as a powerful component of place identity, the *shisa* has been a cultural icon in Ryukyuan architecture for centuries. The survey of other *shisa* images on Figure 111 includes a variety of artistic creations, all sharing some thread to the lineage of Shuri-jo and Ryudai *shisa*. A conspicuous observation, however, is that despite the obvious cultural significance of this talisman figure, *shisa* appear to be extinct in the new architecture of Ryudai. Perhaps a victim of modern architecture's general disdain for ornamentation, the character has nevertheless made a comeback into contemporary Okinawa, including virtually every tourist shop on the island.

The Ryudai Palimpsest

The previous set of campus images have included site plan drawings that mesh various archival maps to indicate the site's dynamic process of making and remaking a sense of place over the past six centuries. We have seen that Okinawan leaders and American military officers made deliberate statements concerning the gravity of deciding to build a new university campus on the former site of the Sho-era castle. This has been widely discussed and theorized, but has it ever been visually documented? From my analysis on this subject, I have encountered no attempt to represent the complex layering of buildings, landscapes, and public spaces over time at the Shuri-jo site. Admittedly, the exercise entails a degree of inaccuracy and interpretation, due to a wide variety of drawing sources.[368] It also involves laborious drawing correction and

manipulation with various software tools. A compilation of the various drawings portrays Shuri-jo as a palimpsest, a living site in a state of constant flux as a result of fires, war, politics, and a collective determination to reformulate the enterprise anew. By subjecting the drawings to a series of graphic design treatments using Autocad and Photoshop software programs, the drawing layers take on X-ray-like appearances that permit multiple viewing of different chronologies on the site. Figure 112, for example, overlays the Sho-era Shuri building pattern (in a gray tone) and *aikatazumi* walls (in brown tone) with the last campus site plan that I found in the USCAR archives. By zooming into the center part of the campus, it becomes clear that the site must have been a very crowded place to conduct ongoing construction projects, not to mention classrooms. Just how big were those campus spaces?

The previous district diagrams analyzed in Chapter Two worked from a one-kilometer grid, subdivided into smaller 100-meter grid lines; the latter are what appear in the composite site plan of Figure 112. As a rule of thumb, the length of a soccer field is helpful visual reference to apply to maps or drawings when imaging the relative size of urban spaces. A detailed look at Section E-6 indicates that a soccer field would fit comfortably into the central quadrangle space of the Ryudai campus. But how big does this space feel compared to other university campuses? In his chronicle of the Ryudai's origins, Yoshio Shimoji comments that by most university standards, the campus was quite small: "it was often derided as an '8-millimeter university,' by analogy with a small-scale home movie." A rough calculation of the Shuri campus zone measures approximately 75 acres, whereas the current Ryukyu campus in Nishihara "boasts a lush, extensive campus with modern halls and buildings laid out in its area of 272.73 acres. It is located on the crests of a hilly area of central Okinawa, commanding a splendid view of Nakagusuku Bay and the Pacific Ocean."[369] Figure 113 combines the main Shuri-jo site with the

new Ryudai campus to illustrate their relative size.[370] As with the original campus, the new location blends with peripheral development around the edges, but its most striking feature is that the Nishihara campus is bifurcated by a stream and steep valley, connected by a pedestrian bridge.[371] In contrast, the entire Shuri-jo site fits within the open space between the two zones of the campus.

This graphic exercise provides a useful mental image of the two Ryudai campuses, from a scale comparison. But for the MSU educators or for the USCAR officials, this comparison would have been meaningless, since the new campus obviously did not exist during their tenures. As a more relevant comparison, it would be interesting to engage in a scale comparison exercise with institutions from their own familiar territories. In other words, since both parties influenced campus planning decisions, it would be helpful to better understand their visual frame of reference when considering the general notion of "what a college campus should look like." Figure 114, then, performs a second scalar operation by overlaying the Shuri-jo site onto the MSU campus, the home of President Hannah and his MSU team. The MSU campus in East Lansing is widely regarded as a beautiful setting, with special attention directed to its attractive landscape. The MSU Campus Master Plan notes that in 1855, 677 acres of land was dedicated for the school which became the first land-grant college in the U.S., a fact that did not go unnoticed by the U.S. Army when they selected them as their institutional partner.

MSU's campus history notes that "the design and evolution of the campus plan was strongly influenced by the literature of the time regarding how to lay out a campus. The plan was a direct and skillful expression of the ideas of Andrew Jackson Downing and Frederick Law Olmsted."[372] In 1906, the College hired O.C. Simonds to refine the campus plan, for which he established the most notable feature by preserving the central campus space as a "sacred space"

from which all buildings must forever be excluded. Architectural historian Dennis Domer describes Simonds as one of the most important prairie school landscape architects in America along with Chicago designers Jens Jensen and Alfred Caldwell, "who made the natural environment a metaphor for their landscape design."[373] The composite overlay of Figure 114 shows that the Shuri-jo site is roughly half the size of Simond's central campus. Further study indicates an interesting coincidence, with both campuses organized along a similar arcing geometry. Shuri's monumental walls create a kidney-bean shaped space that is also reflected by the general configuration of the MSU buildings. Ryudai's central quadrangle never achieved the sophisticated landscape qualities as Simonds' campus design but it did inscribe similar sidewalk patterns and arranged the buildings around the edges to frame the open space.

Figure 115 more clearly illustrates Ryudai's campus configuration, characterized by buildings perched along the curving edges of the bluff, framing the arcing quadrangle space. The colored site plan in the left window depicts the administration building at the east terminus of the plan, which is further defined by local access roadways.[374] The aerial photograph on the right furnishes a good angle with which to perceive the overall campus composition, and also illustrates the steep bluff on the south side of the campus. In order to accentuate the building-to-landscape relationship, I have manipulated the same photograph to emphasize the building locations in the central core. The darker shades of green highlight the two programmed open spaces (the quadrangle and the athletic track) while the lighter shades of green demarcate the naturalistic landscapes that follow the ridge line and pond areas. Finally, the purple lines trace the principal axes that organize Ryudai's building configuration. Like the MSU campus two main axes with an approximate 20-degree angle form the basic orientation of the central space. However a third axis is critical to the definition of place, because it reflects how visitors would

first perceive either the castle or the university. A dramatic view of the campus unfolds in Figure 116, which looks across the meandering Ryutan Pond towards the university buildings that terrace up the hillside.[375]

From a macro-level design point of view, this urban design sequence is perhaps the most extraordinary stroke of genius that early Shuri designers and builders created, as it sets off a dramatic vista across the water for guests approaching from the main road that appears in the foreground. For visitors driving down a crowded commercial street on their way to either castle or college, the busy streetscape is suddenly interrupted as one crosses the bridge, where the monumental walls and buildings appear across the water. The entry sequence continues, as the view disappears and the visitor turns onto a short access road that returns to the southern end of the pond, where one encounters the Shurei-mon gate, before continuing up the hill through additional portals and exploding into the monumental courtyard.

It is noteworthy to point out that in my review of extensive archival materials, this perspective angle was the preferred "postcard shot" of the campus in publications.[376] Although the main quadrangle and administration building would be the most obvious choice for showing off the campus' most impressive image, it turns out that many authors and publishers preferred a more dramatic view that emphasized an interplay between a reflective water forecourt, dense vegetation, massive castle walls, and white modern buildings that seemed to float above the undulating landscape. All in all, this was a much more dramatic choice to advertise America's new "showcase of democracy," as opposed to a central quadrangle with dirt roads, sparse landscaping, and buildings that appeared much more conventional when placed a flat ground plane. As captured in the Ryukyu postage stamp (Figure 65), this *sukiya*-like amalgam of building and landscape would stop visitors in their tracks before continuing up the hill to

Ryudai's front door. Professor Milton Muelder's expressed his own surprise at Ryudai's physical appearance in a letter to his MSU counterparts in East Lansing: "… the historic site of Shuri Castle, completely destroyed in the bitter fighting of 1945, had been transformed into an institution with promising physical facilities."[377]

Having personally designed several urban design projects similar in scope and scale to the Ryudai campus, one of my first reactions to studying the Shuri-jo sequence described above has been to ask myself, "Who designed this place?" Like many historic projects like Shuri-jo, there is no single designer to point to, since the magic of the place has evolved over decades, if not centuries. In her detailed book, *Japanese Architecture as a Collaborative Process,* Dana Buntrock offers an insightful interpretation for sites such as Shuri-jo: "Most discussions of architecture in Japan argue that the carpenter was both builder and designer, just as in Western pre-industrial societies. Even today, temple, shrine, and teahouse carpenters often maintain both roles."[378] In other words, the psychological research of Gert J. Van Tonder and Michael J. Lyons addresses the issue of how builders knew aesthetically how and what to construct, hypothesizing that visual intuition played a major role in traditional Japanese design. Their use of medial axis transformation (MAT) analysis reveals similarities in design principles employed by Japanese gardeners to the visual effects of perceptual grouping studied by Gestalt psychologists: "Garden design elements are arranged in patterns that simplify figure-ground segmentation, while seemingly balancing the visual salience of subparts and the global arrangement."[379] So, could Ryukyuan builders and gardeners have relied on design intuition to create the alluring complex of Shuri-jo? Could the Ryudai, MSU, and USCAR officials also have relied on design intuition to collectively create the new university? Working in tandem with the Japanese Metabolists, Kyoto-based architectural critic Masao Kinoshita writes in great

detail about the traditional *sukiya* aesthetic in building and landscape design, observing that "in the light of the great symmetry of matter, there is no difference between big and small, and even a tiny particle contains possibilities equal to those of infinite space."[380] His message echoed Tange's argument that traditional Japanese design concepts were ripe for a modernist reinterpretation, which may alter scale and materials in the process.[381]

Returning to the birds-eye photo of Ryudai once again (Figure 116), the question of "who designed this place?" can be rephrased to "What are the design principles of this place?" If we suspend reality for a moment and apply Kinoshita's dictum that good design applies across all scales, a useful analytical procedure may be to imagine the birds-eye view not of a university campus, but of a Japanese garden. Now, the Ryudai buildings may be seen as rockery; the rolling landscape as a variety of plants; and the pond as a small water feature. This scale transformation now makes it easier to apply Van Tonder and Lyons' MAT analysis to the Ryudai garden, and find out if the metaphor is valid. Figure 117 illustrates an interpretation of their theory that human visual perception is linked to medial axis representation of shape. The MAT analysis involves identifying the composition of rock location (here, building location) by linking the arrangement to interconnected spaces: "The medial axes constitute a global structure that converges toward the main viewing area, forming a very simple tree shape …. The transformation reveals a self-similar dichotomously branched structure, with a naturalistic appearance reminiscent of both organic … and inorganic … patterns of nature."[382] In the altered photograph, asymmetrical clusters of Ryudai buildings, or rocks, are grounded by their medial axes which link into the tree branch originating from the bridge overlooking Ryutan Pond. Buntrock's analyses of the Edo-period Katsura Villa and Toshogu shrine complex reveal similar

design principles at work: both are "complexes of buildings where attention has been paid to creating a unified sense of design in siting and in the architecture." [383]

While comparison of traditional Japanese shrines and gardens are instructive to the Shuri-jo analysis, a review of the UNESCO World Heritage nomination reveals that the castle has a lesser-known counterpart. Figure 118 shows Shuri-jo in relation to *Shikinaen*, the imperial garden villa located five kilometers to the south. The two are connected by a lovely meandering stone-paved path called *Ishidatami Michi*, along which high ranking politicians and samurai lived. *Shikinaen* is worth noting because of its refined garden and pavilion designs, in a space much smaller than the official grounds of the castle. This was the getaway for the imperial family, where they could relax, socialize, and enjoy the beauty of nature. Here *sukiya* design principles are more evident, since they are woven into a compressed space where every sequence and composition is anticipated and nurtured by the designers, builders, and caretakers. In 1959, Japan's main architectural journal, *Shinkenchiku*, initiated their English language version which coincided with the country's modern architecture revolution. Echoing the philosophy of Tange and Kinoshita, the editors juxtaposed bold contemporary building projects with a long-running series on traditional Japanese garden design, with similar analytical strategies to Van Tonder and Lyons' MAT diagrams. Image S.1 is a simple diagram from the second installation, explaining the basic garden elements and their spatial relationship to each other. With a little imagination the descriptions can easily be applied to both the *Shikinaen* and the Shuri-jo sites:

> The principal scene A, is the central pivot of the whole garden. Whether it includes mountains, a waterfall, a forest, or anything else, it is the focus of attention …. The subsidiary scene B, which is complimentary to the principle scene A, is less pretentious than the latter…. it could equally well have a forest, or a lake. The only thing essential is that it should establish some rapport with A and round off its effect. The guest scene C

> stands apart from A or A- and B. Unlike B, it is not a subordinate of A; instead it stands in contrast to it, perfecting the beauty of the garden as a whole…. The foreground scene D is placed just in front of the room from which the garden is viewed, and is the closest part of the garden to the house. Consisting usually of stepping stones, a stone or earthenware basin for water or a few shrubs or small trees, it fulfills the important task of linking house and garden…. With the background scene E, these are then arranged together to form one whole.[384]

In another article in the series the following year, the editors included additional lessons on Japanese gardens, which they used as an analogy to differentiate Eastern and Western approaches to understanding and defining space. Reading between the lines, it is clear that postwar Japanese architects wanted to be connected to international trends of modernist design, but also wanted to maintain their own unique sense of design identity. Architect Arata Isozaki explains that during and after the war, Japanese architects grappled with how to define Japan-ness and "came to see modernity and tradition as two sides of a single issue, articulating a stance by means of which to critique both at the same time."[385] The *Shinkenchiku* garden article weaves its own interpretation by laying out a short but provocative proposition:

> Though originally inspired by landscapes, Japanese gardens tend to be symbolic and, to some extent, pictorial. English gardens are realistic; one delights in the actual object before one's eyes. Japanese gardens, however, are idealistic; one is made to feel the impression of Nature in the raw. A landscape is produced in miniature or in symbol. What is important is not the object one sees, but the much larger object one imagines.[386]

When imagining the iterative development of Ryudai as a Japanese garden design that adheres to the Eastern version of *Shinkenchiku's* philosophy, the physical transformation of the

site can be more easily linked to the narratives articulated by Ryudai, MSU, and USCAR officials. Each of these actors had different visions for how they fit into the project and where they wished it to go, yet they managed to work through issues of hierarchy, hegemony, language, ritual, and other cultural influences to construct a bold vision that symbolized a hopeful future. Each of these actors also found different strategies for influencing the actual outcome of the campus development, reflective of the respective positions of power that they occupied.[387] The MSU educators were identified as liaisons between the Okinawan and U.S. military leaders, and archival material suggests that their role was generally perceived as a positive contribution from all parties.[388] Even though the military operated according to strictly defined protocol, the MSU educators were sometimes able to work with USCAR to bend rules and negotiate compromises. As one example, MSU Professor Alan Tucker explained that "All of us here have had several experiences with the term 'Mission' being misunderstood, with most people thinking we were a religious mission. Today our group discussed the situation, and unless you have an objection we will use the term 'Advisory Group.'"[389]

While his description may come across as idealistic, Professor Robert F. Carlson's assessment reflects written sentiments expressed by a number of MSU advisors: "In our contact with the Ryukyus people and observing the progress made by them, we feel fortunate to have had the chance to work with them, not to mold them into an American way, but to assist them in research of practical significance in developing their own way of life."[390] And throughout the university's construction process, the parties were in a state of constant compromise and negotiation – not only amongst themselves, but with the site as well. MSU engineering instructor J.D. Ryder, for example, struggled with finding a suitable location for Ryudai's new engineering building: "The subject of the location for an engineering building was considered

…. It would be highly desirable to have the engineering work closely associated with the remainder of the campus … It seemed that the Memorial Playfield site would most adequately meet the needs of the Engineering Department."[391] Just as *Shinkenchiku* garden articles and Van Tonder and Lyons' theory suggest, the design process involved a degree of improvisation, especially when locating university buildings within a precinct that had so many physical constraints and programming criteria.[392]

The resulting social and environmental milieu was full of complexity and contradiction, but that is the case within any cultural ecotone. The antithetical scenario of Ryudai might have gone something like this: the new Okinawan government created their own independent university; USCAR focused on infrastructure projects and military bases; and MSU stayed in East Lansing to continue their own educational mission. Perhaps it would have eliminated much conflict and perhaps Ryudai would still have grown into a prestigious national university, but it would also have been a more homogeneous set of adventures. Had the university initiative been driven strictly by Okinawan leaders, the architectural outcome may also have turned out quite differently. Without American funding and expertise, the academic campus may have evolved much more modestly in scope and scale.[393] [394] As it turned out, the Ryudai "garden" was indeed symbolic; it was also pictorial; there is no doubt that it was idealistic; given its Shuri-jo roots, it was intimately linked to nature; it also was a microcosm of the larger Okinawa; and its rapid progress planted rich visions in the imaginations of the participants as well as the observers.[395]

Spatial Character of an 8-millimeter Campus

Carrying the Ryudai garden design influence one step further, zoomed-in views of Figure 118 reveal the level of intuition that the designers relied on to make their design decisions. Postwar sites such as these, as Sylvia Ostry reminds us, are embedded with a fine web of inherited knowledge that acts to filter the rush of new information, programs, parameters, styles, materials, and technologies that rocked Okinawa with their Cold War building boom. The uncertainties and process of trial and error reads clearly in this remarkable document, in which building outlines, roads, walls, and handwritten labels all compete for space on the page.[396] Even when engineers and contractors thought they had a site surveyed and ready to go, there was still no guarantee that it would be suitable until they started digging building foundations. MSU Chief Karl T. Wright relayed one of their setbacks in a report to military officials: "The new Women's Dormitory was started about two weeks ago, after about two months delay, due to the finding of caves where we expected to build it. Additional land had to be purchased."[397] Here the overall campus resembles a garden during the construction process, in which the university gardeners are in the middle of moving the large stones around to decide upon the correct balance that is described in the *Shinkenchiku's* design principles and MAT analysis. Another scale comparison is worth introducing at this point, to describe a contrasting approach with another militarized campus project designed and constructed at the very same time as Ryudai.

The U.S. Air Force, which continues to occupy a highly visible and political position in Okinawa, was created just after the close of WWII which led to the establishment of a new military academy, located near Colorado Springs.[398] Occupying over 18,000 acres, the massive complex was designed by SOM, a world-renowned American architectural firm, with

construction beginning in 1954.[399][400] Figure 119 superimposes the Shuri-jo site onto the academy's main academic precinct which covers about a fifth of a square mile. The academy's courtyard nearly swallows the Shuri-jo property, looking like an enormous machine part that was separated from some alien apparatus of an entirely different scale and existence. Recalling Leo Marx' famous axiom, the complex looks like a giant *machine* in a giant *garden*. Using Shimoji's description of Ryudai's small scale, this "8-millimeter" campus appears to have gotten swallowed up by a massive high-definition movie screen.

Figure 120 offers a more understandable view of the Air Force Academy's building environment, which is considered a paragon of mid-century modern architecture, as detailed in its 2004 national landmark application.[401] Architectural critic Robert Bruegmann described it as "one of the grandest … most intact ensembles of that era to be seen anywhere in the world. It functions as one of the great monuments of an era that seems so near to us in time but in other ways appears to belong to a past almost beyond recall."[402] SOM's iconic chapel is the most recognizable building of the academy, but the high modern aesthetic of the academic buildings that form the bulk of campus adheres to principles that incorporate similar materials, massing, and articulation. The nomination comments that one of SOM's main themes "is the sense of floating or delineation of different planes. The most obvious demonstration of this theme is the extensive use of columns or pilotis, making the buildings themselves appear to be floating over open space."[403] SOM's director of design, Walter Netsch, Jr. worked closely with noted landscape architect Dan Kiley to achieve what the nomination describes as a "masterful blend of nature and man-made environments."[404] The academy complex required extensive site work, resulting in an interesting comparison to Shuri-jo: "The retaining walls are an essential feature of the Cadet Area, creating the monumentality required for its reputation as a 'new Acropolis.'"[405]

Popular media picked up on this reference, describing the new campus as having ”the most dramatic situation of all (on) a natural mesa in the northwest corner of the site … that makes a ‘veritable Acropolis’ … for the spiritual center of the project.” [406]

The Air Force academy campus is fertile territory to apply Tuan’s theory of place that examines notions of symbols and metaphors as vehicles that enrich and deepen the meaning of an image. The buildings’ clean lines, the courtyard’s manicured landscape, and the materials’ precision articulation are direct reflections of the Air Force ethos of discipline and control. On the other hand, Ryudai’s convoluted palimpsest of buildings, landscape, and materials present a much different set of circumstances. This eclectic mix is a microcosm for the larger socio-political forces at work in Okinawa; the accelerated process of redefining place with the authorship of a diverse set of actors further complicates the phenomenon. The USAF campus and the Ryudai campus call to mind Colin Rowe’s clever interpretation of Isaiah Berlin’s fox and hedgehog allegory, by comparing Louis XIV’s palace in Versailles and Hadrian’s villa in Rome:

> What interpretations can be placed on this comparison? That Versailles is the ultimate paradigm of autocracy: that it assumes a complete political power, undeviating in its objectives and long sustained; that, fundamentally, Hadrian was no less autocratic than Louis XIV but that, perhaps, he was not under the same compulsion to make so consistent a display of his autocracy …[407]

Rowe tightens the dialectical question by posing the question, “which of their two products might be felt to offer the more useful example for today – the accumulation of set pieces in collision or the total co-ordinated display.” For Rowe, it is the latter: “structural discontinuities and the multiplicity of syncopated excitements …” Despite the collisions and

multiple readings, "it all adds up … in so convincing and useful a fashion than one can only believe in its promotion."[408] The superimposed site plan of Shuri-jo and Ryudai reflects a slice of the complex layering of Colin Rowe's Rome, and also represents a rich body of untapped lessons to theorize. We have seen, for example, a formal Ryudai with the axial quadrangle of campus that hosted public ceremonies staged in front of its symmetrical administration building. (Figures 108, 111) We have also seen a more elusive Rydai with the intriguing spatial sequence leading from the pond through a series of spaces and portals to arrive at the quadrangle. (Figures 116, 117)

A closer interrogation of the superimposed plan reveals that the periphery of the campus contains combinations of buildings and landscapes that appear both bizarre and intriguing, once again mirroring the extraordinary convergence of such a diversity of traditions, personalities, visions, and agendas in a single place. Figure 121, for example, illustrates the detail of a construction document for an "experiment farm" located at one of the corners of campus.[409] The arrangement of the farm plots seems inconspicuous enough, but a closer look at the linework indicates that they were tightly pressed up against the cascading *aikatazumi* walls. The thought of pigs and chickens nestled up against the warm limestone walls or sweet potato vines cascading over the top would never likely have entered the imaginations of Ryukyuan emperors and guests who once strolled through the well-kept imperial gardens. Yet, the rescued archival drawing paints a tantalizing scenario.

The photo of the Agriculture Department's experimental greenhouse adds further intrigue to the campus mosaic by combining what appears to be a state-of-the-art glass and metal conservatory structure with a concrete entry façade, topped off with a sliver of traditional clay roof tiles. To try and keep it from getting blown away by the next typhoon, the building has

been anchored down with several ropes staked into the ground. All this is set upon a large stone foundation, which appears to be a former building site, which sensibly takes up the next position from the previous building that once stood on the spot. The transience of campus facilities was a fact of life for Ryukyuan and MSU educators, especially when it was impacted by a typhoon. Inevitably, this put more pressure on administrators to keep up with their already-strapped budgets, as President Genshu Asato expressed in a letter to USCAR: "Typhoon Sharlotte gave as much damage to the UR as is shown in the enclosed. I would like to solicit an additional financial assistance, amounting to $2,969, so that we may repair the damage. I will appreciate it if you will take our sincere request into your special consideration."[410] The challenges of recovering from typhoons compounded the larger war recovery efforts, placing greater importance on the agricultural research and development carried out with simple structures such as the Ryudai greenhouse.

One other observation to extract from the greenhouse photo is important to mention within this discussion. The white containers placed around the building were likely used for transporting plants, soil, and other materials including a plethora of new chemicals that MSU brought with it through their agricultural sciences.[411] Before the world became attuned to the dangerous effects of widely used herbicides and pesticides following the war, these became game changers in boosting production – precisely what was needed in Okinawa. Professor Robert F. Carlson, for example, led research in horticultural crop production at Ryudai and recalls that "some of the projects of note were to grow improved varieties of vegetables, the use of mineral fertilizers, and discourage the use of 'night soil' to improve the health status of the people."[412] Okinawa's changing agricultural practices mirrored those being developed in the United States in the 1950s, with a host of new techniques and technologies being explored to

increase yield, variety, and quality. In America, Okinawa, and across the globe the unintended consequences of industrial agricultural practices have come under scrutiny, and we continue to debate the dilemma of chemically-based agricultural productivity in relation to long-term effects on the natural environment and human health.

One of the most colorful figures from the MSU contingent was Professor Karl T. Wright, considered widely as a leading innovator of agricultural science and economics. Beyond that, he was a nice guy and he enjoyed his time in Okinawa.[413] In a departure speech to his Ryudai colleagues, Wright stated that "In the nearly two years here, I feel that a large number of lasting friendships have been formed. Even though we are leaving physically, our hearts will remain here with you…. We will also remember the beauty of your Islands. Hardly a day goes by that I have not admired the wonderful view from the campus." [414] In Dean Higoshi's speech at Wright's farewell party, he recognized his effectiveness as a liaison and leader in helping to accelerate the university's progress: "Throughout every work of Dr. and Mrs. Wright we have noticed the tremendous contribution done toward the promotion of mutual friendship between the Americans and the Ryukyuan people."[415] As evident from a wide body of correspondence and manuscripts, Wright stands apart as an especially effective communicator and enjoyed engaging with a variety of people during his leadership position in Okinawa. This personality trait served him and his MSU colleagues well, with their role as "a sort of 'go-between' with the university and the military government."[416]

Like President Hannah, Wright was an agriculture extension specialist and expressed his tireless passion and new ideas for social reform in a variety of entrees in Okinawa, including an article published in the student newspaper, where he shared his vision for the future of Ryudai: "A Land-Grant College or University, as developed in the United States, is definitely a different

type of educational institution than those existing in many countries, where universities are looked upon as communities of scholars in which learning is worshipped for itself alone."[417] Wright explained that land-grant institutions promoted knowledge that would not only directly benefit university students but the larger community as well. The university's role in community service is driven by a "fundamental philosophy that education can help to make life more useful and satisfying, and above all, aid in the rapid development of a country." This described the condition of an Okinawan community struggling to get back on its feet following the shock of the war, and resonated with both community and military leaders. Wright further distinguished the land-grant teaching approach from the Japanese lecture-style approach, by pointing out that faculty teaching and research must not be confined to the classroom, but "may be in the laboratory on land or sea, on experimental farms, businesses or homes. The idea of service calls for faculty dissemination of knowledge in various fields through the use of textbooks, research bulletins, university classroom teaching, and extension meetings and classes for out-of-school adults. Thus, the entire nation can benefit."[418] [419]

Wright's amiable personality appears to have been a critical success factor in integrating MSU's agricultural and home economics programs with the Ryudai faculty and students, as well as with the larger public through their land grant programs and workshops. This program had significant impacts well beyond the Shuri-jo campus boundaries, including agricultural research stations and a forest extension center. The combined Agriculture-Home Economics curriculum that MSU promoted influenced how new knowledge was disseminated throughout the Okinawan community through its popular extension programs, and also created a cultural space for MSU instructors to experience local traditions. Professors Professor Eleanor Densmore and Faye Kinder, for example, embraced a "two-way street" of knowledge exchange and made significant

advances in issues of nutrition, public health, new technologies, and the planning of new university buildings. Several memoirs make it clear that MSU educators also learned from the Okinawan people and culture, which helped pave the way towards a long term relationship between the two schools that continues today. The success of the MSU-Ryudai program in agriculture and home economics appears to have been particularly enriched by an exchange of Eastern and Western traditions in gardening, cooking, nutrition, and promotion of health and wellness. As previously mentioned, Doctor Makoto Suzuki and his colleagues, Doctors Bradley and Craig Willcox, have likened this phenomenon to *champuru*, a fusion of Eastern and Western cuisines. They have applied this metaphor to developing a well-respected research program on Okinawan health and longevity, sponsored by Ryudai and the University of Hawaii. Their work represents a valuable paradigm of sustainability that integrates traditional heritage with modern technologies, a theme that crosses over to how the Shuri-jo site quickly grew into a full-fledged university campus. A history of extreme human-induced destruction, paradoxically, has not prevented Okinawa from earning recognition as a beacon of health and wellness, boasting the highest concentration of centenarians on the planet. This *champuru*-like body of work suggests potential future directions of this dissertation to analyze the role of place as a critical element in Okinawa's unique recipe for a sustainable lifestyle.

Wright's vision did not stop with promoting health and wellness, or teaching styles and methods. He also linked his vision for education to the physical design of the campus itself, stating the need for a variety of buildings, laboratories, farms, gardens, and other facilities that would support a diversified approach to learning. Martin Muelder, MSU's first advisory leader, also encouraged operational training and support to accompany a long-term campus planning strategy. In one instance, Muelder cautioned against a short term desire for additional agriculture

uses on campus: “I counseled against taking five acres and advised that steps be undertaken to develop, as soon as possible, an organization and staff … which could make a valid claim to the entire experiment station located near the University.”[420] Both Wright and Muelder supported Ryudai to embrace its role as a symbolic center of knowledge. But they also encouraged the university to become an operationally efficient land-grant organization that could grow comprehensively from the campus throughout the community. The reconstructed Shurei-mon gate was an important link to the past, but Wright’s idealistic vision was that the new portal should be open and accessible to all, not just the privileged classes of society and important visitors. Reflective of John Dewey’s experimental educational theories, Wright and his MSU colleagues transformed the attitude of education from an introverted approach to an extroverted approach, intimately linked to the surrounding community.[421] Similar to the land-grant educational techniques practiced in the U.S., Wright and his MSU counterparts stressed an interactive learning style that followed Dewey’s model of “learning by doing.” Agricultural researcher Richard Enfield traces Dewey’s influence to agricultural extension programs, noting “Dewey’s principles of continuity and interaction are played out time after time in the 4-H Program.”[422] A more permeable model of the university campus emerged under the guidance of MSU’s land-grant philosophy, encouraging a fluid exchange of knowledge and resources as a kind of “university without walls” within the community. The new university was a microcosm of a larger vision for the new Okinawa, in which knowledge was a key to a more diverse, thriving, and prosperous future. Did it matter that the Shuri campus was running out of space to handle the rapidly growing student population? For Wright, the central campus was important as a sort of base camp, but his programs reached far and wide across Naha and the island itself. This spatial conceptualization of the university within the island’s greater geographical context

helped to imagine a natural transition from the Shuri campus to the Nishihara campus in the next chapter of Ryudai's evolution.

It also linked the university as a site of critical knowledge and research to the island's unique ecology, by redefining the notion of "classroom" in completely different terms. The new Ryukyuan classroom could be in the experimental garden next to the 14th century castle walls; it could be at a farm in a small village; it could be in a family's home kitchen with neighborhood women; it could be on a hillside in the experimental forest station; or it could be on a fishing boat in the sea. (Figure 122) While the programs and teaching experiences may not have been as seamless as the MSU and Ryudai faculty had desired, their new approach to learning was an astonishing change in the approach to higher education in Okinawa and Japan. As part of this shift, a reconceptualized understanding of campus was critical to the idea that knowledge was intimately linked to the community's environment, at multiple scales and in multiple locations. This notion reflects Sack's concept of place, grounded equally in geographic, social, and intellectual terms, and serving as a provocative mirror for the underlying structure of Shuri-jo. While the center of the Shuri complex was the *seiden* and accompanying court, it was part of a much larger, integrated system that encompassed ecological, social, and economic layers that occupied a vast territory. Ryudai's new land-grant philosophy empowered it to pursue a similar scope but with education, rather than political hegemony, as the vehicle. One initiative that Ryudai published in a report title "On Future Problems" conveyed their expanding awareness of and impact on their environment with a requested support for a marine biology station: "Okinawa is surrounded by the sea, all around, however, few studies have been done on the ocean."[423] In addition to detailed staffing plans and budgets, the biologists' narrative effectively coupled science and reason in their proposal:

> Marine resources are being progressively exploited at various waters of the world, and great efforts are being made, by many nations, for the development of marine sciences…. The marine station, wherever located, should be a research station for the studies on the terrestrial animals, plants and geology of the islands, which are naturally related with the conditions and histories of their surrounding seas, since the islands, are so small. The marine station is, therefore, not only a research and training center for the marine sciences, but also a center for (all) … natural sciences of the islands …[424]

The notion of a continuum of an island-wide ecological system that links land and sea supports a thicker definition of Shuri-jo that extends beyond the monumental *seiden* hall of state building outward to all the interconnected spaces and systems that surround it. The network of pathways, portals, niches, and smaller public spaces combine to create an element of mystery, surprise, and discovery. And because of the university's intimate "8-millimeter" scale the frequent integration of scientific systems, cultural practices, health and wellness, and nutrition took place within Ryudai.[425] Similar to Massey's view of place as simultaneously local and global, the paradox of Ryudai's campus design was that it was at the same intimate and expansive. The central core was tightly constricted, but it also had a constellation of educational extension nodes throughout the community, and also had political and economic ties to the government centers of Japan and America. Wright's land-grant philosophy encouraged transdisciplinary exchanges at the student as well as faculty level, but also created a permeable university in spatial, social, and intellectual terms. Figure 123 portrays the shared agriculture-home economics building where much of the theoretical instruction took place. And just out the door was another greenhouse, this one without the monumental entry portal. While the buildings are not as refined as SOM's Air Force Academy masterpiece, the architectural resolution of the Ryudai building exhibits a neat and well-resolved composition with details that suggest

influences from Japanese and American sources. Architects like Hisao and construction companies like Kokuba-gumi who worked in both Okinawa and Japan were sources of cross-pollination at a time when modernism was flourishing. Yasugoro Yoshioka, Editor of *The Japan Architect*, acknowledged that the Korean War spurred a building renaissance in Japan, which was important for the economy as well as for the maturation of an architectural philosophy, adding that "No one would claim that Japan has completely emerged from the age of confusion that accompanied her rapid modernization, but in the past three decades Japanese buildings have begun to attract much attention ..."[426] The same comment aptly described the architectural petri dish at Ryudai.

A further sampling of other Ryudai buildings reveals campus-wide design tendencies which produced a degree of uniformity that included some elegant solutions tailored to specific contextual conditions. The dispensary (Image S.1), for example, is a small unassuming building constructed of white-washed concrete with an overhanging flat roof, but it represents a fascinating link in Ryudai's modernist architectural lineage. The main wing includes a south-facing wall of Hisao's hanna-blocks that act as a simple *bris-soleil* to minimize direct solar gain while still allowing breezes to cool the building. The handsome building contrasts nicely with a dramatic stone base and ramp leading up to its elevated platform, reminiscent of the modernist vocabulary of Tokyo-based Antonin Raymond.[427] This composition also bears similarities to Walter Gropius' house in Massachusetts, a white concrete modernist building floating on top of a rustic stone base. With the mid-century flow of design ideas between Okinawa, Japan, and the U.S. it is not that surprising to discover similar aesthetic characteristics. In fact, architectural historian Yukio Lippit notes that Walter Gropius's first and only trip to Japan in 1954 realized a much-anticipated encounter: "The seventy-one-year-old Gropius fulfilled a long standing dream

by visiting a country whose traditional architectural culture seemed to foretell many of his own ideas."[428] Along with Buckminster Fuller and Konrad Wachsman, Gropius was invited to Japan to help solve the housing crisis whereupon he famously commented, "Young architects – forget Rome and go to Japan!"[429] The visit to Japan made just as profound an impression on Gropius as it did on the Japanese architectural community, and Gropius later wrote:

> You cannot imagine what it meant to me to come suddenly face to face with these houses, with a culture still alive, which in the past had already found the answer to many of our modern requirements of simplicity, of outdoor-indoor relations, of modular coordination, and at the same time, variety of expression, resulting in a common form language uniting all individual efforts.[430]

The small building at the bottom of Figure 123 is described in a USCAR report as a "design for the future, model farm home," displaying a modular construction, sliding doors for typhoon protection, a flat roof, and shallow front porch setback.[431] The military built their own versions of single-family houses on military bases, a subject that Mark Gillem critically assesses in his book, *America Town*. In the U.S. Army's film, *Okinawa – Bastion of the Pacific* the narrator describes that along with the new military base construction,

> … attractive suburban areas were laid out and trim modern homes were constructed. Now American kids play happily among the smart new homes of the servicemen's family. If the soldier's wife runs short of soap or breakfast cereal, there are modern American-style supermarkets with stocks of the same merchandise she might expect to find back home. There's even someone to help with the grocery cart![432]

Although the Levittown lifestyle was sold as an effective recruiting tool for prospective American military personnel, the building patterns resulted in bizarre implants of sprawl with little relationship to their localized context.[433] The center image, S.2, provides a lively scene at Ryudai, with a crowded audience watching track athletes round the corner towards the finish line. This image is important for two reasons. First, it indicates the use and function of a reconstructed segment of Shuri-jo's *aikatazumi* walls, visible to the extreme left of Figure 123. The wall restoration, in fact, was used by Ryudai as a resourceful opportunity to construct it as an athletic grandstand overlooking the new athletic track and field. Second, while the idea was a good one, the planning and execution were problematic. Shortly after the massive concrete structure was poured, university and military officials received a letter from the Okinawa Federation of Sports Associations:

> To our great pleasure we were recently informed that the University of the Ryukyus had undertaken the work of constructing a stadium which will be used not only for the University but by the whole Ryukyus' athletics groups. We immediately went to the site of the new athletic field for inspection, but we in the sports circles were rather disappointed with the planning of the stadium. To be a standard and proper stadium, the field should have appropriate bleachers right along the running track. However, the present plan … will make the track lie almost perpendicular to the bleachers, thus making it necessary for the spectators on the bleachers to use their side glance to watch track and field …. A best athletic field will be completed with careful attention taken on the topography of the site, which we regret the University is failing in its present planning.[434]

Tze May Loo points out that this mistake was especially disheartening to the Sports Association because they had just recently convinced the GRI's Cultural Assets Preservation Commission (CAPC) to fill in the historic Enkakuji Pond for the new track: "We request your

cooperation to build a place for the education of young people who will create a new culture."[435] This encounter illustrates the competing interests that valued historic cultural resources while also paving the way for progress and a rejuvenated capital city. In the case of the university's athletic commission and supporters, Loo explains that "Okinawa's cultural properties were worth preserving, but only to the degree that it did not interfere with the future development of the islands."[436] The debates inherent in such difficult endeavors are never black and white, and require compromise, respect, and empathy to move towards a mutually agreeable position. In the case of Ryudai's athletic venue, the CAPC lost their pond but got to keep their temple; the Sports Association got their track but spectators had to crane their necks to see the race's finish.

Controversy at Ryudai was not just limited to sports fanatics and hard-core preservationists. It was a constant fact of life for educators who had to justify budgets for new programs and facilities. In one instance, requests to fund a new home economics building were not approved by USCAR officials. This decision met a wave of protests by both the MSU and Ryudai academic communities who had witnessed the tangible benefits of the program with the university curriculum and with the increasing extension services based in the community. In an unusually pointed communique between the Ryudai president and USCAR, Genshu Asato petitioned hard for the new building: "As you know well, the Home Economics Department enjoys a position of prestige in the University community and in the community at large. Demands from the community for guidance and assistance are numerous, in fact, more than can be met by those faculty members who are willing to engage in on- and off-campus activities."[437] Not one to back down from a fight, Professor Faye Kinder joined President Asato by preparing a detailed analysis of the Home Economics program defined by a matrix of spaces, uses, and costs, along with a philosophical narrative that was sent to USCAR officials and their military

counterparts, claiming that "There is need on the islands of the Ryukyus for trained Home Economists to work with families during the present period of rapid cultural change."[438] She did not stop with niceties, but did her homework to provide convincing baseline comparisons with American educational standards, and building assessments of the Ryudai facilities to reveal lack of faculty research facilities, overcrowded classrooms, and even dangerous building conditions. In one official report she bluntly states, "The laboratories are 'death traps' and should long since have been condemned for human occupancy."[439] The controversy attracted a wide variety of commentary and correspondence, which created a virtual forum where issues of feminism and domesticity were articulated.[440] [441]

Mire Koikari's work on feminism in postwar Okinawa links it to the mid-century rise of home economics, which constituted a new intellectual movement centered on women, domesticity, and scientism: "MSU home economists' activities in Okinawa reflected this history as they defined their mission in terms of creating a 'women's space' within the male-dominant University of the Ryukyus and empowering local women through dissemination of 'scientific domesticity."[442] In Kinder's reports, she and her staff prepared detailed programmatic breakdowns with an emphasis on technology in the proposed building, which included an "experimental food laboratory, textile research, nutrition research laboratory, home science laboratory" and other spaces that were conducive to developing systems that utilized local resources. Correspondence and reports further reveal that several MSU instructors were actively involved with the programming and conceptual design of Ryudai buildings. The Home Economics faculty, in particular, demonstrated the highest degree of hands-on space planning and collaboration with the design and construction teams. The blueprints of the Home Economics building, which was eventually funded, in Figure 124, for example, include detailed

room schedules and furniture layouts. They also illustrate efficient building layouts and circulation flow, as well as detailed cost breakdowns.[443]

Image S.1 on Figure 124 provides a glimpse of a home economics class, displaying the aura of scientism that Koikari describes, emphasized by the white gowns and headscarves worn by the all-female student and instructor group. Like other photographs of home economics classroom environments or extension events, the instruction includes several demonstrations, which lead to the Dewey-style active learning style promoted by MSU educators. This scene represents a learning format that is quite different than the prewar Japanese lecture style curricula that Gordon Warner, Earl Diffenderfer and other USCAR education officials also denounce in favor of MSU's land-grant model. Image S.2 portrays a second classroom, this time in a laboratory format to an all-male typing class. Although the work is done individually, the subject matter would naturally spur interactive exchanges between student and teacher, in contrast to a relentless note-taking seminar. The other interesting observation of this *mise-en-scene* is that it illustrates a young MSU professor standing next to the Okinawan professor, possibly observing or guiding the instruction techniques. The camera position also presents the classroom ambiance and views that Ryudai students would have had from upper floors in the academic buildings. A picturesque view of the rolling landscape and residential village is framed by the classroom window, with the sea in the background; one can almost smell the salt air in this image. While each of the four students in the photo has their eyes trained on the blackboard's keystroke technique diagram, this would have been a most tempting environment in which to daydream.

An even more commanding view is shown in Figure 125, with USCAR Director of Education Earl Diffenderfer and his wife, journalist Hope Diffenderfer. They appear to be

getting a rooftop tour of the campus from a Ryudai official, looking southward toward the engineering building and surrounding landscape. This vantage point provides another useful understanding of the campus scale. The four-story academic buildings form a spatial proportion that is starkly different than the vast expanse of the Terrazzo, the Air Force Academy's central quadrangle. Although the previous comparative scale exercises prove that the "8-millimeter university" is a fraction of the overall Nishihara, MSU, and Air Force campuses, the proportion of its central quadrangle is distinctly well-proportioned, in comparison. Numerous books and articles discuss the art and design of civic space, but one of the definitive works on the subject remains Hegemann and Peets' *American Vitruvius: An Architects' Handbook of Civic Art*.[444] The book is a *tour de force* of public space, written and illustrated in an extremely usable and useful anthology filled with analytical plans, sketches, and photographs.[445] As to whether the Ryudai quadrangle would pass muster with Hegemann and Peets, I would venture to guess that they would find the basic proportions and building relationships agreeable but the landscape design lacking resolution. They point out that civic art is a difficult exercise to begin with, and that the influx of automobiles has further complicated plaza designs with traffic engineering considerations. Using their sweeping survey of civic spaces, they admit that urban design relies on intuition as well as experience:

> The question just what should be the proportion between the mass of the building and the plaza designed to set it off, or vice versa, what mass should be given to a building which is to face a given plaza, cannot be answered by setting down a hard and fast rule. Experience shows that the dimensions of a plaza must be at least equal to the height of the principal building facing the plaza and that that the maximum dimension depends upon shape, purpose, and style of that building.[446]

Hegemann and Peets may have had a more difficult time categorizing Shuri-jo within their rubric, since they address predominantly classic "Western" civic spaces. While Ryudai's central quadrangle space would qualify as a "Western" civic space into their schema, the Ryutan Pond sequence of vistas, spaces, and buildings may be categorized as more "Eastern" in character, and therefore defy explanation in their text. Within Ryudai's dualistic urban condition, one building functions as a linchpin between both the upper quadrangle and the lower pond spaces. Designed by Nakaza Hisao, the Shikiya Library is one of the university's most refined pieces of architecture and became an instant favorite upon its inauguration in 1955. (Figure 126) From the quadrangle side, it creates a critically important anchor to the long side of the civic space, a quality that Hegemann and Peets surely would applaud. From the pond side, it slips between the cascading *aikatazumi* walls and rises as the tallest building on campus. The steep walls and sloping hillside accentuate the library's prominence, with the pond providing additional drama with the reflection on the water's surface.[447] (Figure 127) Hisao recessed the ground floor and added a vertical screen wall on the upper three floors, achieving the "floating" quality that the SOM buildings display at the Air Force Academy campus.[448] Named for Ryudai's first president, the Shikiya Library opened with great fanfare during the fifth annual university festival, where General L. Lemnitzer, Commander of the American Forces in the Far East and Governor of the Ryukyu Islands, gave the principal address:

> The function of the University is to provide those educational opportunities for the young people of the Ryukyus which will promote the economic and cultural development of these islands and which will create understanding of the duties of free citizens in a democratic state…. Nowhere in the world of education has there been a record of so much accomplished in so short a period of time.[449]

Figure 128 juxtaposes two final images of the campus from a similar vantage point as Figure 127. Quite different in their respective media, both are strikingly similar with regard to the relationship of the principal figures to the scene that unfolds before them. On the left, Dr. Wright converses with his MSU colleague, Dr. Pierson, with a pointing gesture across the pond toward the library and acropolis-like campus. On the right, an anonymous artist's sketch depicts a mother with a similar gesture to a boy, or perhaps to the grouping of buildings in the distance. Perhaps they represent the Shikiya Library and other new Ryudai buildings up on Shuri Hill. We are not privileged to eavesdrop on the conversation of the MSU professors, but one could imagine Wright telling one of his many stories about his experiences up on the hill. He might also be giving some pointers to Dr. Pierson for how to make the most of his experience at Ryudai. Or perhaps where they could find a good cup of tea. The drawing on the right is taken from one of Ryudai's English language books, and may not actually be referencing the campus buildings but, even so, it is an enticing allegory to imagine.[450] The mother could be planting the seed in her daughter's mind that she may be able to go to school there someday. She might also be pointing out the latest new building that just appeared on the skyline. Or perhaps where they could find a good cup of coffee.

CHAPTER FIVE: From Shuri-jo to Futenma

The Shuri-ness of Shuri-jo

As signs of reversion of Okinawa from U.S. to Japanese sovereignty became more evident, USCAR scaled back their funding and the MSU mission to Ryudai was reassessed. Mizoguchi, Koikari, Loo, and most other scholars on U.S.-Okinawa relations observe a widening gap between the Ryudai academic community and USCAR, as Okinawa became more politically aligned with Japan in the 1960s. In a meeting between top leadership of the two universities in East Lansing, Ryudai President Yonamine described their view of university relations this way:

> The Ryukyuan public so far have tended to identify the University of the Ryukyus with the United States Military. This presents certain difficulties and the Ryukyuans are re-examining the role and the relationship to the U.S. military. These kinds of relationships need clarifying before they can continue at the university to develop their new charter.[451]

MSU had made clear from the beginning that they hoped to support Ryudai develop to the point that it would be a self-sustaining institution, and by the 1960s that was the case. In the meeting with President Yonamine, MSU's President Hannah emphasized his belief that every university needs to find its own unique way to be "individualistic," rather than trying to copy some other leading university. In the situation of Ryudai, "he pointed out that the location of the Ryukyus in the Far East, between two great powers of Japan and China, represented the unique opportunity that this group of islands has, and it has performed so well and effectively in their past history by bringing together and serving as a point of meeting …"[452] By the mid-1960s the

student population had increased to a point where the campus was running out of space, and the administration began looking for options. In January 1967, Dr. Gordon Warner, USCAR Director of Education and Information, wrote in an internal memo, "Since the present campus is essentially filled and will accommodate no additional significant buildings, it is felt that the matter of acquiring additional land for a second campus site should receive high priority."[453] At the same time, Ryudai was receiving pressure from local officials to sell property for much-needed development space. Except for the obvious castle walls, the edges between neighborhood and campus were blurred with the streets and buildings at the periphery, and as the city grew, constant tension around land ownership and development increased. When the city of Naha pressured the University to sell a piece of land so that they could put a building there, Horace King recalled that "since the University had only a small piece of land for the campus, the President felt that we could not spare any property for other organizations and was … strongly opposed to the city's request."[454]

By the following year, the MSU contract with the U.S. military had been terminated and Ryudai began active planning and design for their new campus seven kilometers away in the nearby town of Nishihara. President Hannah and President Yonamine agreed that their 18-year relationship had been positive, productive, and personally fulfilling, and agreed to continue their academic partnership independent from U.S. military contracts. In addition to remote collaborations and student/faculty exchanges, both universities have maintained a diverse and active academic partnership.[455] After Okinawa's reversion to Japan in 1972 it received the prestigious title of a "national university," now occupying a much larger campus with many more buildings, academic programs, and consistent funding from the Japanese central government.[456] The current online media brochure presents an attractive impression of the new

campus with lots and lots of space – the antithesis of their origins at Shuri-jo. (Figure 129) But do more real estate, buildings, roads, parking lots, and sports facilities make a superior academic environment? The facilities planning departments of most universities would not blink an eye to respond, but I contend that Ryudai's campus at Shuri-jo possessed a unique quality of place that has needed to be articulated. I hope that I have begun that conversation with this document.

In her proposal for a new home economics facility at Ryudai, Faye Kinder wrote, "The United States witnessed many changes in the twentieth century. Some of those changes are now occurring in the Ryukyus and at a more rapid rate; change from a production to a consumption society, increasing affluence, and change from the extended family to the nuclear family …"[457] The rapid rate of change has continued in Okinawa, and the consumer-based economy has evolved into one driven by two influences – the military and tourism. For visitors to Okinawa's number one tourist attraction, they will see the Shuri-jo *seiden* in all its glory, fully restored and in better condition than it was before the war. They may watch a traditional Ryukyuan performance, visit the gift shop to pick up a *shisa* souvenir, stroll around the grounds to see the Shurei-mon gate and *aikatazumi* walls, and perhaps feed the ducks down at Ryutan Pond. They may even post their group photo or selfie to a social media site and, for the motivated, add a comment or rating to a tourist webpage. (Figure 130) But they will find little to no indication that Ryudai ever existed on this site. For all intents and purposes, the idea of a university occupying this site would appear surprising, if not preposterous. For visitors who avoid any prior research of the tourist destination they are visiting, or neglect to read informational signage, they may even have no idea that the building they are standing in front of is a new structure, constructed in 1992, not a 14th century historic piece of architecture.

In April 2012, author Medoruma Shun published an article in the *Asia-Pacific Journal: Japan Focus* titled, "We Cannot Allow Governor Nakaima to Falsify the History of the Battle of Okinawa." At issue was the Governor's decision to edit the content of the signage of an information plaque outside the entrance to the Japanese 32nd Army HQ Shelter in the Shuri-jo grounds. The controversy has been a point of contention for several years, debating the proper use of language to represent key events which describe the relationship between Japan's 32nd Army and the Okinawan civilian population. In effect, Shun charges the Governor with whitewashing the unpleasant truth of the horrible acts of war that took place on a site that the government prefers to tout in a more positive, tasteful light, which is supposedly more appropriate for tourists.

> For Governor Nakaima and the prefectural government, Shuri Castle is a place for communicating the glorious history of the Ryukyu Kingdom; it is not a place for communicating the tragic history of the Battle of Okinawa. On the contrary, they are trying to remove and conceal the tragedy, and by burying the HQ Shelter, attempting to erase the abhorrent memory of the Battle of Okinawa as soon as possible. Politically motivated selection of the directors of prefectural museums and art galleries, the view that culture is nothing but entertainment for tourists, and the falsification of the history of the Battle of Okinawa that is inconvenient for the State all attest to the poor calibre of Nakaima, a former MITI bureaucrat.[458]

Shun's argument challenges us to not blindly accept the story of place on a silver platter, however tantalizing it may be. Even though well-designed environmental graphics and signage may help tell a compelling story, history and tradition are by no means completely innocent or benevolent. A fair question, then, may be to ask why the storyline of Ryudai has been virtually erased at Shuri-jo. Its significance pales in comparison to the thousands of innocent lives that

were lost during the war, but as we have seen so far in this document, it was nonetheless a hotly contested site filled with transnational tension, creativity, and debate about what the future of Okinawa would look like after those terrible tragedies took place. How is this not relevant to disentangling the full meaning of a place as complex as Shuri-jo?

This document has taken up that question with the help of many sources and scholars to explore place in a kaleidoscopic way, expanding Norberg-Schulz' classic definition of *genius of place* into what I have described as *genome of place*. As MIT's Donella Meadows expressed, one theoretical lens is insufficient, for some nuance will always be missed in the process. A second lens will miss what a third one offers, and so on. Doreen Massey argues that the essence of place must be explored through both its physical and social particularities, and that its meaning must be considered simultaneously across time and space. Recognizing that these types of relations are constantly shifting as power relations and economic exchanges evolve, author Richard Florida puts it more bluntly: "Place has become the central organizing unit of our time …"[459] By tracing the various lines that have been inscribed on the Ryudai campus at Shuri-jo, we see that the dynamics that lie behind Florida's "units" are different for different people who are attached to that place. As a Cold War icon it functioned as a highly visible international symbol in political circles and in the media. As a school it functioned as a gateway to the future for local students and educators. And as a land-grant institution, it fostered a porosity of social networks within a knowledge-based context. Filled with complexity and contradiction, Ryudai would also qualify as a classic hub in Richard Florida's creative economy: "it's not just that diversity and inclusion are moral imperatives … they are economic necessities. Creativity *requires* diversity; it is the great leveler, annihilating the social categories we have imposed on ourselves…. This is why the places that are the most open-minded gain the deepest economic

advantages."[460] The frustrations and tensions that run throughout the narrative of Ryudai's early development may question just how open-minded and creative it was, but the site of Shuri-jo has remained a lightning rod for provoking cultural debate throughout its existence.

From the Perry expedition, we gained an appreciation for defining a new place using a diverse cadre of experts. In addition to linguists, botanists, and scientists, Perry also brought artists such as William Heine, who captured memorable scenes of the politically independent and paradisiacal Ryukyu Islands. From the WWII U.S. Army and Marines, we have benefitted from their illustrative wartime mapping that charted how to traverse difficult terrain to capture the Japanese headquarters hidden in bunkers beneath the *seiden* at Shuri-jo. Their mapping was produced as real-time series snapshots of the progress of battle, indicating how a site is transformed physically and politically in a short timeframe. From Blackie the Photographer and other military photographers, we have seen the power of the camera, which they used so beautifully to depict deep layers of space and the actors that bring that context to life. The postwar correspondence and documents generated by USCAR and the MSU educators have also opened a wide window into the fascinating dynamics of how Ryudai was conceptualized and executed, in collaboration with an eager and capable Okinawan leadership. The vast database blended personal insight, formal reports, drawings, photographs, popular media, and other sources of information to provide a variety of invaluable perspectives. As WWII veterans approach the end of life, many sources of Okinawa-related information have poured forth on the Internet, including photographs, postage stamps, media clippings, and personal accounts of Okinawa's postwar resiliency and reconstruction.

My inquiry has also benefitted from a number of theorists who conceptualize place with compelling methods, including Pearson's militarized environments, Sack's territoriality, Tuan's

symbols and metaphors, Latour's Actor-Network-Theory (ANT), Meadows' World Model, Fullers' synergetics, Sutton's cultural ecotone, Craig Venter's Human Genome Project, Joseph Nye's soft power, Tange's metabolism, Kinoshita's *sukiya*, E.O. Wilson's cubic foot, Chen's *feng-shui*, Van Tonder and Lyons' medial axis transformation (MAT) analysis, Rowe's fox and hedgehog allegory, Wright and Kinder's land-grant philosophy, Koikari's domesticity, and Hegemann and Peets' civic art. These diverse theorists have all contributed a unique lens to understanding what makes one place distinct from another, creating a *bricollage* of perspectives that thicken my ongoing investigations of Ryudai and Shuri-jo. Certainly, it would not be hard to get overwhelmed by the sheer volume of data or theoretical approaches involved in this endeavor. To manage and manipulate this information, I have relied on my own method which I have reinterpreted from the simple concept of a food web, utilizing a series of software applications and graphic design formats to create a kind of interactive scaffolding of information and ideas. With a nod to the ecologists and geneticists that I have spent time with, "genome of place" represents only a starting point – perhaps more of a provocative challenge to others interested in rearticulating a creative approach to understanding place, as a necessary prelude to introducing any type of creative intervention. In other words, a fundamental message of this dissertation is that it is important to spend time understanding the meaning of a place before one imparts a design solution onto or into that place. The message is directed toward challenging the inertia of homogeneity in the design profession; it is directed toward challenging the tendency to avoid interaction with disciplines outside our respective specializations; it is also directed toward challenging fashionable trends and conventional formulas.

Genome of place, then, is an open-source call to fill in the blanks of the framework that I have begun with the BASEmapping tool. Benefitting from the work of leading theorists like

Buckminster Fuller, Janine Benyus, Aldo Leopold, Wes Jackson, and Mark Sutton, this methodological framework looks to nature as a source for creating a usable tool that accommodates complexity without being overly complicated. As technology continues to advance at blinding speed, more and more tools will come to our disposal to scratch a bit deeper below the surface of nature, to learn from nature. But Meadows cautions us not to get lost in the technology; common sense and human emotion is still needed. Benyus points out that there is 3.8 billion years of experience contained in the natural world around us, and that true sustainability will aspire to learn from nature "as model, as measure and as mentor."[461] The BASEmapping tool is one attempt toward Benyus' appeal, resulting from numerous interactions between experts in natural science, social science, and design – both in the academy and in the professional world. It is rooted in an interactive framework for sustainability defined by Biotic, Abiotic, Social, and Economic spheres of influence, thus creating the term "BASE." When combined with the web-based mind-mapping software, the combination results in "BASEmapping". I anticipate that this will evolve into an online interactive format that can not only address Shuri-jo, but other inquiries about places that designers and creative thinkers may embrace.[462]

There is, however, one name missing from the list above. That is John Stilgoe, an author, cultural historian, and teacher who continues to offer one of the most important pieces of advice: "go outside." Professor Stilgoe likes to walk, observe, take pictures, and keep an eye on the periphery, at the details that are often passed over and left unobserved.[463] My extensive archival research, internet explorations, reading of books and papers, and discussing the topics with peers has been an invaluable experience. However, if one listens to urbanist John Stilgoe, he will tell you to get out of your classroom, get out of your office or car, and walk. Look. See. Ask

questions. Understand. Although a highly regarded academic and theorist, he spends more time walking neighborhoods than he does in his Harvard classroom: "I emphasize that the built environment is a sort of palimpsest, a document in which one layer of writing has been scraped off, and another one applied. An acute, mindful explorer who holds up the palimpsest to the light sees something of the earlier message, and a careful, confident explorer of the built environment soon sees all sorts of traces of past generations."[464]

The concept of palimpsest resonates with the quest to understand the meaning of a place like Shuri-jo, because it has been a site of constant making and remaking; a site of friction and contestation; a site of rich cultural heritage and idealistic visions of the future. With its mixing of architectural history, it is also a site that has evolved through time in a non-linear pattern. So, on my last trip to Shuri-jo, I walked. I took my camera and observed, looking around corners and edges, off the beaten path that the other tourists were taking up to the *seiden* for the requisite photo-opp. Borrowing another phrase from a biology friend, I thought of the *seiden* as the "charismatic fauna" that he cautions against. The polar bear, the giraffe, the flamingo all fall into this category because they are photogenic and easy for lay persons to identify with and love. An earthworm or beetle, on the other hand, does not make good stuffed animals, but they are critical – arguably more critical – to the health of an ecosystem than their charismatic counterparts. In the same way, the *seiden* is the obvious icon to see at the Shuri-jo site but how many people bothered to wander through the far end of the gardens to read the historical plaque that Medoruma Shun feels so passionately about?

Figure 131 represents my stroll through Shuri-jo on a lovely day, camera in hand, eyes constantly shifting, and all senses on high alert. No charismatic fauna. Image S.1 captures the *aikatazumi* walls. As a point of contrast, SOM's retaining walls are beautiful in their own right,

expertly designed and crafted to set off the refined metal and glass building complex above. But the Shuri walls dance. The walls flow with the landscape, swirling and curving in response to the undulating hillside. The random stone patterns emerge out of the rugged limestone bluffs, sometimes as a smooth curving vertical face, sometimes as a series of terracing platforms, sometimes as loose rubble to form a walking path. Shifting to a horizontal ground plane, the walls become steps leading up to an opening in the wall, a threshold moving visitors from one space into the next. The walls step down and separate, forming irregular pods for monuments or delicate landscape. They also jut out like fingers reaching toward the sea. As a punctuation point, the entry portal is capped with a rustic wood façade and origami-shaped tile roof. Image S.2 traces the same walls as they drop down to the sacred Ryutan Pond, the "tail of dragon" pond. Here, the walls are severe in their verticality, forming the curving water's edge that leads to the entry bridge that one crosses, another threshold. A simple pavilion branches into the water, creating a tranquil, shady spot for enjoying the landscape with a cool drink. Another portal is in Image S.6, this one armed by a sentry dressed in an elegant uniform, greeting visitors coming and going. S.4 pulls a slice of the elaborate *seiden's* architecture away from the main courtyard (*una*) to create a marker, a place where visitors pass through the wall from one layer to the next. The pavilion's warm wood material compliments the cool stone, while the vibrant red color scheme jumps right off the gray walls, which are inscribed with mossy green lacework along the joint lines. The famous Shurei-mon gate stands at attention in image S.5, rotated off axis to imply another circulation orientation beyond, opening up to a panoramic view of the sea. With the lower part of the gate invisible to the eye, it signals a drop in the pavement, ramping downwards with a relatively steep incline. Although Ryudai was relocated to Nishihara, vestiges of the university still exist, including the open portal in the former men's dormitory. Hisao's hanna-block screens are clearly visible here, framing a view out to the tropical landscape.

Framing a view of nature is a classic *sukiya* design principle, found in Japanese tea gardens; it also has a Western analogue found in Renaissance gardens of Italian villas. The missing *shisa* that used to be on top of Ryudai's original administration building has returned to Shuri; or perhaps this one is a descendant, colorfully painted by the art students at Okinawa Prefecture College of the Arts.

One of the insights of this peripatetic excursion is that the natural and constructed environments have many layers and idiosyncrasies that are undiscovered, until one engages in a hyper-sensitive absorption of the context around him or her. While this anecdote represents a short engagement with the Shuri-jo site, a much different account would be developed at sunset or after dark; it would take on a different character in a different season, and would be uninhabitable during a typhoon. Likewise, it is impossible to represent in a written document but Stigoe's walk stimulates all the senses, and Shuri-jo is full of them: sounds, smells, tastes, textures, as well as inspiring sights. Although the university now has a new home traces of its existence do remain, despite the absence of any obvious historical monument or sign. The regulating lines of the *aikatazumi* walls, the spatial sequence around the pond and through the entry portals, the axiality of the center court – these design principles transcended the imperial castle and the university, and make up part of the DNA of place that sets Shuri-jo apart from any other. As a site of cultural hybridity, Shuri-jo remains a complex problem to disentangle, but a robust theoretical platform and attentive walking go a long way to reveal the nuances of place. As Tuan reminds us, metaphors are also powerful vehicles to acquire deeper meanings of place, and the *champuru* notion of culinary hybridity represents a useful lens for capturing the cultural fusion that has taken place over the centuries at Shuri-jo.

Borrowing another culinary metaphor, wine experts use the term *terroir* to describe fusion of another sort: “Terroir, of course, means much more than what goes on beneath the surface. Properly understood, it means the whole ecology of a vineyard: every aspect of its surroundings from bedrock to late frosts and autumn mists, not excluding the way a vineyard is tended, nor even the soul of the vigneron.”[465] When describing the *terroir* of a particular wine, experts may offer alternative interpretations but the notion revolves around the duality of the “somewhereness” of a wine's origin and the “somethingness,” of a wine's composition.[466] It is the rare fusion of geography, climate, soil, flora, horticulture, chemistry, mechanization, intuition, artistry, commerce, and ultimately individual sensation. It is one of the most tangible examples of an intangible idea: of man and nature coexisting in a unified state. The extreme transformation of Shuri-jo has been a passionate dance involving a diverse cast of characters which has resulted in an ongoing condition of ambiguity and complexity within Okinawa’s militarized environment. But the genome of place for a university campus or a glass of wine broadens our capacity to unlock the contradictions of uniformity and uniqueness, tradition and modernism, man and nature.

Epilogue

Having dedicated a significant amount of time and energy researching this subject, I am compelled to ask the difficult question that should be directed to all academic pursuits, particularly doctoral dissertations: “So what?” In other words, what is the relevance of this study of Shuri and Ryudai to contemporary issues in Okinawa and beyond? What, if anything, is transferrable to other “militarized ecotones” like Shuri-jo? One immediate and pressing answer

to this question is found by looking at the current media reports that are issued daily in Okinawa, with the central issue focused on the U.S. Marine's Futenma air base, located in central Naha.[467] The recent gubernatorial elections in November, 2014 centered on the Futenma issue, which is two-pronged. On one hand the existing base is slated to be vacated by the U.S. military and reverted to Okinawan use and control. On the other hand a new replacement facility is slated to be constructed on the northern part of the island in an environmentally sensitive location. I submit that the ideas and methods contained in this dissertation are translatable to complex problems like the future uses of MCAS Futenma and the other U.S. military sites slated for reversion back to Okinawan use. By invoking the transformative lessons of Shuri-jo and Ryudai, broader insights will contribute to a more sensitive and meaningful approach to how the enormous property is reintegrated into its surrounding community. Furthermore, this comprehensive urban design-oriented framework for the pending de-militarization of Futenma will potentially contribute to a positive and productive process for the long and complex public process that awaits Japan, the United States, and Okinawa.[468]

Local and international media continue to report on the mounting geopolitical tensions surrounding this issue, which has led to further alienation between the U.S. military, Japanese central government, and the Okinawan community. The absence of a shared site like Ryudai's campus at Shuri-jo and a liaison group like MSU has removed the ability to engage in meaningful cultural exchanges, even if they are characterized by friction, contention, disagreement, and frustration. The mid-century Ryudai experiment certainly encompassed all of these, but nevertheless fostered substantive dialogues to take place. As Ryudai and MSU leaders came together in East Lansing, Michigan to discuss their future relationship, they touched on many subjects. Some reached back to the beginnings of the University; some analyzed what

worked well and what did not; some charted new ideas for the future. Dean Taggart, proposed an idea that was never realized, but may have new currency with today's geopolitical climate:

> One idea pertaining to future relationship … is the possible establishment of an International Center at the University of the Ryukyus that would be the point of contact between the institution – and educational programs, individuals, and resources outside of the Ryukyus. The Center would be an integral part of the university, yet it would be developed in such a way that it could play a "buffer" role between the University of the Ryukyus and the U.S. Military.[469]

In my initial assessment of the Futenma property, I find it rife with complex issues that will prove extremely difficult to sort through and coalesce into a vision that will be understandable and acceptable to local residents, government officials, and the U.S. military. With international treaties under the spotlight, various organizations have already begun planning efforts for how to reuse the large property. The concern is not only that competing interests will lead to a prolonged process, but the actual plans may lead to unintended consequences of which we cannot even identify yet.[470] While militarized environments often carry negative connotations because of possible contamination, unexploded ordnance, and dangerous military connotations, they also represent unique ecosystems that have been largely undisturbed for the past seven decades.[471] As such, Okinawan military sites may present a kind of medium-range ecological context in which to organize a multi-disciplinary team to set up a variety of research projects that develop historical metrics and future forecasts. These sites are not one-off natural disasters that occur in a split second eruption or earthquake, or a week-long weather cycle. And they are not long-term urban development evolutions that take place over generations. Their time frame is somewhere in between, and their impact on the natural and

urban environment is often extreme. The sources of their impact on natural and human systems consist of many threads, but a specific issue to Okinawa has been their use and consumption of productive landscapes.

First published at the time of Okinawa's reversion in 1972, the Study Group for a Sustainable Society in Okinawa professed a vision for Okinawa centered on a peaceful, sustainable future, emphasizing an "endogenous development that mobilizes the energies of the anti-base struggle in order to realize a sustainable society within Okinawa's environmental and resource endowments."[472] This dissertation proposes to offer a framework for visions such as these to be systematically explored and tested, thereby generating scenarios that may inform ultimate decisions. The Ryudai case study provides a beta test for articulating the transformation and resilience of a demilitarized site through my BASEmapping design methodology which will (a) expand the typical repertoire of design variables to a much greater degree, (b) formulate how they can be integrated across disciplines and (c) locate them within specific spatial dimensions of a site. (Figure 132) By integrating natural and human systems within a defined spatial territory such as Shuri-jo a deeper understanding of the genius of place is given a greater degree of literacy. New questions can be asked, new metrics can be devised, and new designs can be imagined.

Chapter One Notes

[1] Okinawa has a complicated political history following its annexation by Japan in 1879. It remained a Japanese colony until WWII, after which the U.S. took over administration of Okinawa under the peace terms laid down in the 1945 Potsdam Declaration. In 1947 a "strategic trusteeship" agreement designated the U.S. as the sole administering authority over Okinawa by a resolution of the United Nations Security Council, which was later modified to a status of "residual sovereignty." This permitted eventual return of Okinawa to Japan, while ensuring U.S. control and ability to operate with complete military freedom. The 1951 San Francisco Peace Treaty officially placed Okinawa under U.S. military administration as an occupied territory, until 1972 when it reverted to Japan.

[2] In classical Roman religion a *genius loci* was the protective spirit of a place, often depicted in religious iconography as a figure holding attributes such as a cornucopia, patera, or snake. Contemporary usage of the concept of *genius of place* (or the Latin version, *genius loci*) dates back to 18th century England, when it was first described by scholar Alexander Pope. Pope's expertise in gardening led him to advocate an approach to landscape that reflected the inherent qualities of a place first and foremost.

[3] Land-grant universities such as Michigan State University, Pennsylvania State University, and Kansas State University were founded as part of the 19th century public university movement that adapted an educational mission of "service to society." Congressman Justin Morrill, who sponsored the act establishing land-grant universities, was concerned with providing a broader, more democratic access to education with programs that would respond to the needs of an increasingly urban and industrialized society. This led to an influx of academic programs in engineering, public health, agriculture, nursing, and other science-based disciplines.

[4] Eiichirro Tomoyose. *The Okinawan Setting*. 1953, TS. Records of the Government of the Ryukyu Islands: 1945 to 1972. Records of the Government of the Ryukyu Islands: 1945 to 1972. Okinawa Prefectural Archives. 5.

In this document, which was given to each Ryudai student as a common historical reference, Tomoyose summarizes an important lesson of Okinawa's past: "The Ryukyuan emperor Sho-hashi unified the island into a single nation in 1405, which encouraged overseas trade to flourish with Java, Sumatra, Borneo, Malay, China, and Japan. Consequently, the country grew so wealthy that they not only built the great Shuri Castle and various large temples, which remained until the Second World War, but they also constructed bridges, roads, breakwaters, and many other improvements. The period of the sixteenth century may be marked as the glorious golden age of Okinawan history."

[5] As discussed further in this chapter, I adopt the view that humans are part of nature, and therefore natural and human systems imply a degree of overlap. Another description for this distinction is use of the terms "natural systems" and "constructed systems." The former refers to biotic and abiotic elements (eg. vegetation and landforms) while the latter refers to social and economic elements (eg. buildings and real estate).

[6] Obviously, this particular landscape was "revered" more by the Okinawans, but U.S. military officers and MSU leaders exhibited varying degrees of respect to the site of the former Shuri castle. At one extreme, overly zealous military construction engineers wantonly leveled portions of castle grounds to prepare for future replacement buildings. At the other extreme, some military and MSU leaders led conservation efforts for surviving artifacts and structures. Details of these practices are further described in Chapter 2.

[7] Immediately after the war the U.S. military government clearly held the upper hand in controlling Okinawa's land use and reconstruction efforts, including the new university. As Okinawa's political reversion to Japan became more likely in the 1960s, U.S. influence and funding was replaced by that of Japan. The foundational

document that defined the post-war relationship between the U.S. and the Japan regarding military uses on Okinawa is the "status of forces agreement" (SOFA) that was stipulated in article VI of the 1960 *U.S.–Japan Status of Forces Agreement.* This was modified with the 1995 *New Special Measures* agreement and the 1996 *Special Action Committee on Okinawa (SACO)* report, coinciding with an official state visit to Japan by President Clinton to reaffirm U.S.-Japanese bilateral relations. Since then, the much publicized commitment to return MCAS Futenma Air Station to Japan has been mired in local resistance to U.S. military presence and in identifying a suitable replacement facility site in northern Okinawa.

[8] Sakihara Mitsugu. "Afterward, Part B: Okinawa Since 1945." *Okinawa: The History of an Island People.* George Kerr, (North Clarendon, VT: Tuttle Publishing, 2000, first published 1958. Kindle AZW file) 550.

[9] The imminent U.S. military base closures on Okinawa are a result of the 2005 bilateral agreement, *U.S.-Japan Alliance: Transformation and Realignment for the Future.* The U.S. Department of Defense (DoD) is enacting this policy by proceeding with a phased approach of several base closures, tied to specific preconditions for each installation.

[10] According to local statistics, over a quarter of the civilian population was killed during the Battle of Okinawa. In keeping with military tradition of creative code names, the Allied Forces named their invasion, "Operation Iceberg." While perhaps not intentional, the iceberg metaphor appropriately describes the military's long and contentious future in Okinawa – a condition that was never imagined when the initial shot was fired over the island.

[11] George Kerr. *Okinawa: The History of an Island People* (North Clarendon, VT: Tuttle Publishing, 2000, first published 1958. Kindle AZW file) 472.

[12] David John Obermiller. (2006) *The United States Military Occupation of Okinawa: Politicizing and Contesting Okinawan Identity, 1945—1955*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (226319807) 24.

[13] Gavan McCormack. "Okinawa Dilemmas: Coral Islands or Concrete Islands," *JPRI Working Paper* No. 45 (April, 1998): 1. Web. Accessed Feb. 25, 2015 at: <http://www.jpri.org/publications/workingpapers/wp45.html>.

McCormack is a leading voice in the ecocriticism movement in Okinawa, who argues that the island's environment continues to be negatively impacted by new construction and military practices. He writes that the "achievement of 'parity with the mainland (*hondo-nami*) has been the driving force of Okinawan politicas for the past generation, but it has been a Sysyphean quest: irrespective of the effort devoted to it the goal seems ever to recede. The bounty of nature, the beauty of the environment, and the sophistication of its culture, were Okinawa's distinctive 'affluence' but they are being sacrificed in the quest for … the constant creation of new and artificial needs …"

[14] Nicholas Evan Sarantakes. *Keystone: The American Occupation of Okinawa and U.S. Japanese Relations.* (College Station: Texas A&M University Press, 2001) 78.

[15] Masahide Ota, Etsu Miyagi, and Hiroshi Hosaka. *U.S. Occupation of Okinawa in Relation to Postwar Policy Toward Japan (1943-1953)*. Naha: University of the Ryukyus, 1987. 5. Accessed Feb. 25, 2015 at: < http://ir.lib.u-ryukyu.ac.jp:8080/bitstream/123456789/13849/2/62041071-2.pdf>.

Masahide Ota, former governor of Okinawa and author, articulated an insightful analysis between Japan, Okinawa, and America: "The U.S. postwar occupation policy toward Japan and Okinawa are essentially two sides of the same coin. At first glance, the U.S. occupation of Japan seems to be one in which the 'occupier' … and the 'occupied' interacted directly. Schematically expressed, however, Okinawa stood between the

occupier and the occupied …. The United States thought of Okinawa as a 'means' of maximizing the effectiveness and success of its occupation policies in Japan proper. On the other hand, for its own advantage and the eventual strengthening of its position as a defeated nation, Japan was perfectly willing to have part of its territory detached and used as a military base by the foreign occupying power."

[16] Robert Schwantes. *Japanese and Americans: A Century of Cultural Relations* (New York: Harper Brothers, 1955) 121.

[17] To further the American patriotism associated with the university, USCAR officials arranged the official dedication ceremony of the University of the Ryukyus on February 12, 1951 in honor of President Lincoln's birthday.

[18] Joseph S. Nye. *Soft Power: The Means to Success in World Politics* (New York: Public Affairs, 2004) 5.

[19] Obermiller 162.

[20] Janine Benyus. *Biomimicry: Innovation Inspired by Nature* (New York: Perennial HarperCollins, 1998) 291.

Biologist and founder of the Biomimicry Institute, Janine Benyus, claims that in order to make real progress and innovation, we need to encourage divergent thinking and unlikely juxtapositions: "It takes educating in the estuary – the place where two or more disciplines flow together – to make a fertile ideabed …. Sparks fly from these mixed unions."

[21] Ota 10.

Ota goes on to say that this inconsistency made it difficult to create any long term economic policies for Okinawa, and that this situation was caused in part by the U.S. government and by General MacArthur's indifference to Okinawa. MacArthur's rhetoric, however, changed as Okinawa become a more important instrument in America's Cold War strategy.

[22] Sarantakes xix.

[23] Gregory Smits, "Okinawan Post WWII Politics." N.P. N.D. 11. Web. Accessed Sept. 1 2014 at: <http://www.east-asian-history.net/ryukyu>

Smits' political analysis of postwar Okinawa provides a detailed description of the evolution and relationship between the military government and the Okinawan government: "The government of the Ryukyu Islands was somewhat complex, owing in part to the tensions associated with rule by absolute military authority within an ostensible framework of democracy. In 1950, the United States Civil Administration of the Ryukyu Islands (USCAR) replaced direct military governance. USCAR was headed by a High Commissioner, who was at the same time the U.S. military commander of the island. The High Commissioner delegated many of the day-to-day civil administrative duties to a Civil Administrator. The Civil Administrator was an army officer until 1962, after which time civilians held the post."

[24] Obermiller 348.

[25] Milton Muelder. "The University of the Ryukyus: A Report," *The Educational Record* (1952): 353. Print. Allan Tucker. "Okinawa's University of the Ryukyus." *The Journal of Higher Education*, Vol 28, No 2 (Feb. 1957): 118. Print.

[26] Muelder 358-359.

[27] Sarantakes 70.

[28] Ota 11.

[29] Masao Kinoshita. *Sukiya: Japanese Architecture* (Tokyo: Shokokusha Publishing Co., 1964) 37.

[30] A review of archival documents revealed that MSU professors Fay Kinder and Karl T. Wright were particularly effective at interpersonal relationships with Okinawan educators. These bonds helped overcome cultural differences and assisted in more effectively working with USCAR.

[31] *The Civil Affairs Activities in the Ryukyu Islands* documents produced by USCAR are available at the KU Library in the public documents section, spanning from 1951 – 1966. I have incorporated much of this data into my own methodology to track different environmental, engineering, architectural, and cultural programs after the war in the capital city Naha and at Ryudai.

[32] Ota 6.

Ota also points to two influential military-produced books that were important sources of information that influenced American understanding and perception of Okinawa. The first was George Murdock's handbook entitled *The Civil Affairs Handbook: Ryukyu (Loochoo) Islands*, and the second was *The Okinawa of the Loochoo Islands: A Minority Group in Japan*, published by the Office of the Chief of Naval Operations. Ota explains that "While the former describes external conditions of Okinawa, the latter focuses on the ways of thinking and behavior of the Okinawans." These two documents were important precursors to USCAR's later publications and documents.

[33] Blackie the Photographer was a reconnaissance photographer for the U.S. Army Air Corps in WWII, and stayed on in Okinawa after the war to open a successful commercial photography company.

[34] This particular photograph is emblematic of the cultural hybridity of the university campus, combining architectural styles and chronologies. The Shurei-mon Gate was the most popular place in Okinawa for photography, which illustrates the iconic nature of the Shuri-jo site. A personal project that is an outgrowth of this dissertation is to curate a collection of portraits of residents and visitors standing in front of the gate, to illustrate a process of cultural evolution defined within the architectural context of the portal.

[35] Additional anniversary publications from Ryudai also recognize its origins at Shuri-jo, but without great detail.

[36] William Tsutsui. "Landscapes in the Dark Valley: Toward an Environmental History of Wartime Japan," *Environmental History*, Vol. 8, No. 2, (Apr., 2003) 294.

[37]Arnold G. Fisch, *Military Government in the Ryukyu Islands, 1945-1950*. Center of Military History, United States Army. (Washington DC: 1988); Willard A. Hanna, *Okinawa: Ten Years Later*. (New York: American Universities Field Staff, 1955); Chalmers Johnson, ed. *Okinawa: Cold War Island*. (Oakland, CA: Japan Policy Research Institute, 1999., 1999); and Warner, 1972.

[38] Jon Mitchell, "Okinawa – The Pentagon's Toxic Junk Heap of the Pacific," *The Asia-Pacific Journal*, Vol 11, Issue 47 No 6, (Nov. 25, 2013): 1. Web. Accessed Feb. 25, 2015 at: < http://www.japanfocus.org/-Jon-Mitchell/4039>.

After a leak of chemical weapons in Okinawa in 1969, media reports and public backlash led to the U.S. military agreeing to remove their chemical stockpile from Okinawa. After 18 months of planning and negotiation, "Operation Red Hat" began the removal process, as documented in the sugar-coated military documentary, "Men and a Mission." (1971) See:

[39] See Purves (2014) and Rabson (2012). The sea-based facility identified in the 1996 SACO report evolved into the current proposal for the Henoko future replacement facility (FRF) adjacent to Camp Schwab. While construction has begun, local protests continue from an international coalition of opponents.

[40] One potential application for this dissertation is to make a small contribution to easing the mounting tensions surrounding this issue, by illustrating how similar issues were negotiated in the postwar period, resulting in both positive and negative outcomes.

[41] See Kiminori (2014), Kunitoshi (2013), and McCormack & Norimatsu (2014).

[42] Yoshio Shimoji. "The University of the Ryukyus: Early Days," *The Ryukyuanist*, No. 47, (Spring 2000): 7. Web. Accessed February 25, 2015 at: <www.uchinanchu.org/uchinanchu/ryukyuanist/ryukyuanist47.pdf>.

[43] Mire Koikari. "The World is Our Campus': Michigan State University and Cold-War Home Economics in US-occupied Okinawa, 1945-1972," *Gender & History*, Vol. 24 No. 1 (April 2012): 78. Print.

[44] So Mizoguchi. "Schooling for Democracy: Michigan State University and Cold War Education in American-Occupied Okinawa in the 1950s." *Virginia Review of Asian Studies*, (Spring Issue, 2013): 13. Web. Accessed February 25, 2015 at: < http://www.virginiareviewofasianstudies.com/wp-content/uploads/2013/06/8.-Mizoguchi-school-for-democracy-15.1.docx>.

[45] Gordon Warner. *History of Education in Postwar Okinawa*. (Tokyo: Nihon Bunka Kagakusha, Co. Ltd., 1972): 80.

[46] Horace King. (1962) *An Analysis of Educational-Administrative-Cultural Aspects of the Relationship Between the University of the Ryukyus and Michigan State University*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (63-1735). 67.

King was one of the original five faculty members sent to Okinawa in 1951, as an advisor on business administration.

[47] This meeting marked the ten-year anniversary of the university, prompting extensive debate within the university about Ryudai's future – including their relationship with USCAR and MSU. This also coincided with increasing public dialogue that led to Okinawa's independence from U.S. military rule, reverting back to Japanese sovereignty.

[48] Willcox, Bradley, Craig Willcox and Makoto Suzuki. *The Okinawa Program*. (New York: Three Rivers Press, 2001) 12.

[49] Willcox 12.

[50] Hanna (1955), Norimatsu (2010), Obermiller (2006), Purves (2001).

[51] Hanna 12.

[52] While the U.S. was committed to rebuilding Okinawa's housing, schools, utilities, roads, and other critical infrastructure, they also wanted Okinawa to become self-sufficient as soon as possible, in order to avoid prolonging the occupied territory as an economic drain on U.S. taxpayers.

[53] See McKibben (2010), Orr (1994), and Worster (1977) for more detailed discussions on climate change and debate over anthropocentric-related causes.

[54] Kerr 298.

Cultural critics are also quick to point out that Perry treated Okinawans with little respect and intimidated residents with his "gunboat diplomacy."

[55] Perry's impressive body of social, political, artistic, and scientific analysis of Okinawa could be considered as an academic bookend to future analysis of the island's cultural ecology.

[56] Jon Michael Purves. *Island of Military Bases: A Contemporary Political and Economic History of Okinawa*. (2001) N.P. N.D. Web. 15 Sept. 2014. 35.

[57] U.S. Army. *Okinawa – Keystone of the Pacific*, Army Pictorial Center (1954). Film. Segment 27:08 – 27:40.

[58] U.S. Army. *Okinawa* 26:55 – 27:08.

[59] Matthew Perry and Francis Hawkes. *Narrative of the Expedition of an American Squadron*. (Washington DC: Congress of the United States, Beverley Tucker, Senate Printer, 1856) 152-154.

Perry's book also includes very detailed biological descriptions and recordings of terrestrial and marine life that they encountered in Okinawa.

[60] Mark Q. Sutton, and E.N. Anderson. *Introduction to Cultural Ecology, Second Edition.* (New York: Rowman & Littlefield Publishers, Inc. 2010) 27.

Sutton discusses the development of "world systems theory" as one influence for his model, which analyzes interconnections of societies around the world, describing different zones as cores (rich nations), peripheries (poor and isolated nations) and semi-peripheries.

[61] Sutton 20.

[62] Sutton 22-23.

[63] Sutton 39.

[64] Sutton 39.

[65] Sylvia Ostry. *The Post-Cold War Trading System: Who's on First?* (Chicago: University of Chicago Press, 1997) 55.

[66] The last and biggest of the Pacific island battles of World War II, the Okinawa campaign (April 1—June 22, 1945) involved the 287,000 troops of the U.S. Tenth Army against 130,000 soldiers of the Japanese Thirty-second Army. By the end of the 82-day battle, Japan had lost more than 77,000 soldiers, the U.S. had lost 14,000, and Okinawan had lost approximately 100,000 civilians. Different sources claim different casualty numbers, but the wartime toll was severe by any measure.

[67] Obermiller 60.

[68] Obermiller 60.

[69] The local residents, unfortunately, were literally and figuratively caught in the crossfire. Horrific accounts of forced suicides and accidental deaths during the battle ensure that this event will never be forgotten.

[70] I have abstracted one of the battle maps to exaggerate the centralized position of Shuri-jo in relation to the topography, shoreline, and urbanized and agricultural areas of the main battle site.

[71] Chas. S. Nichols, Jr. and Henry I. Shaw, Jr. *Okinawa: Victory in the Pacific*. (Washington DC: Historical Branch, G-3 Division, Headquarters, U.S. Marine Corps. Superintendent of Documents, U.S. Government Printing Office, 1955) 274.

Representing the Imperial Japanese General Headquarters and the Japanese Government, Lieutenant General Toshiro Nomi formally surrendered to Lieutenant General Joseph W. Stilwell at the 10th Army Headquarters at Camp Kuwae, near Kadena airfield. Stillwell subsequently assumed the title of Military Governor of the Ryukyu Islands.

[72] Newspaper and radio reports during 1945 frequently reminded Americans of President Truman's intention to bring soldiers back home before Christmas.

[73] Kerr 550.

[74] Clarification note: the U.S. Navy was the first governing force, followed by the U.S. Army, then followed by USCAR in 1952.

[75] Christian Norberg-Schulz. "Kahn, Heidegger and the Language of Architecture." *Oppositions*, 1979 (18): 45.

Christian Norberg Schulz explains that "*genius loci*" is term utilized by ancient Romans, who believed that "every being has its 'genius', its guardian spirit. This spirit gives life to people and places, accompanies them from birth to death, and determines their character."

[76] Norberg-Schulz (1979) 5.

[77] Norberg-Schulz (1979) 5.

[78] M. Reza Shirazi. "'Genius Loci', phenomenology from without." *Function – Purpose – Use in Architecture and Urbanism*, Vol. 12, No. 2, December 2008: 9.

[79] Shirazi: 10.

While recognizing Norberg-Schulz' shortcomings, Shirazi admits that "staying out of the building is not based on the poverty of the concept and theory, but implies an underestimation. In fact, 'genius loci' as a concept based on the thought of Heidegger has the potentiality of interpreting both interior and exterior, and has the capacity of dealing with the work of architecture as a 'whole.'"

[80] Sketchup, a popular 3d modeling tool used by designers, includes an "orbit" tool which allows users to zoom in and rotate around any object in space. Google Earth's Street View is another similar tool, which allows users to virtually drive down any street (also with zooming capabilities) where Google has photographed in

this mode. These are two examples of how technology has produced tools that can enhance the methodology and conceptualization of *genius loci*.

[81] Guo Jianhui, "No More Heidegger, No More Genius Loci: a Poststructuralist View of Place." *Journal of Environment and Art* (April 2006): 50.

[82] David Harvey, "From Space to Place and Back Again: Reflections on the Condition of Postmodernity" *Mapping the Futures: Local Cultures, Global Change*, Et. Al. Jon Bird (London: Routledge, 1993) 14.

[83] Jianhui 51.

[84] Doreen Massey. *World City*. (Cambridge, U.K.: Polity Press, 2007) 7.

[85] In other words, these theoreticians have developed elaborate narratives about place, but have failed to effectively incorporate visual representations of place into their approaches. Whether simple diagrams or photographs, these images are by and large supplementary add-ons to their narrative. Buckminster Fuller, on the other hand, places as much attention on his visual graphics as he does to his written narrative.

[86] As a member of the National Science Foundation for the IGERT (Integrative Graduate Education and Research Traineeship) Program at the University of Kansas, I participated in both classroom instruction as well as field research. The faculty and student cohort included a multi-disciplinary team from the disciplines of biology, geophysics, ecology, geography, sociology, agriculture, and architecture.

[87] While Norberg-Schulz acknowledged the importance of natural science to the notion of *genius loci*, he found the discipline deficient in establishing a holistic approach for describing place. The incorporation of food webs, however, represent one tool of the natural sciences that he overlooked as a potential means of linking the particularities of place with changing relationships of the entities that occupy that space. Other aspects of natural science, such as taxonomy and biomimicry, represent additional models that have untapped potential for shedding new light on how place is understood, defined, and manipulated.

[88] Eugene P. Odum. *Fundamentals of Ecology*. (Baltimore, Maryland: Johns Hopkins Press, 2004, Fifth Edition, 1953, First edition): 5.

[89] Odum 5.

[90] Following the war, Fuller moved to Greenwich Village where he befriended artists Constantin Brancusi and Isamu Noguchi and began formulating his personal environmental design philosophy which he christened *Dymaxion* ("dynamic-maximum-ion").

[91] Perry's in-depth analysis of Okinawan ecological and social systems remain an impressive, if not under-appreciated, body of work that was performed with the military objective of assessing the island's potential as a future American colony. Fuller's *synergetics* theory, on the other hand, was inspired by his naval training and wartime experience, but was developed after he was out of the military, and was oriented toward humanistic goals of global peace, prosperity, and cooperation.

[92] Diane Massey. *Space, Place, and Gender.* (Cambridge, U.K.: Polity Press, 1994) 3.

Fuller and Massey both emphasize the multiplicity of time and space, applying Albert Einstein's theory of relativity to understanding the shifting dynamics of place, economics, and politics. In her book *Space, Place, and Gender*, Massey further explains: "The view … is of space-time as a configuration of social relations within which the specifically spatial may be conceived of as an inherently dynamic simultaneity. Moreover,

since social relations are inevitably and everywhere imbued with power and meaning and symbolism, this view of the spatial is as an ever-shifting social geometry of power and signification."

[93] Amy Edmondson. *A Fuller Explanation: The Synergetic Geometry of R. Buckminster Fuller.* (Pueblo, CO: Emergent World LLC. 1987. Kindle AZW file) 401.

[94] A tetrahedron is mathematically defined as a polyhedron with four faces. This was the basic geometric shape for one of Fuller's most important and prolific inventions, the geodesic dome, which he created while in residence at Black Mountain College, founded as the first American Bauhaus school and community established by progressive educator John Dewey and directed by artist Josef Albers.

[95] Originally named the "Great Logistics Game" and the "World Peace Game," Fuller later shortened it to the "World Game." It found traction across academic, governmental, institutional, and personal spheres, but now exists as a cartoon-illustrated educational tool – likely falling short of the popularity or sophistication that Fuller had envisioned.

[96] Buckminster Fuller. "World Game." *Buckminster Fuller Institute.* Web. Accessed December 31, 2014 at: < https://bfi.org/about-fuller/big-ideas/world-game>.

[97] Originally created in 1943, The Dymaxion map is a projection of a world map onto the surface of an icosahedron, which can be unfolded and flattened to two dimensions. Fuller's map is a helpful model to illustrate how creative design thinking can translate a three-dimensional environment to a two-dimensional graphic tool.

[98] In 2001, a for-profit educational company named o.s. Earth, Inc. purchased the principal assets of the World Game Institute and has been offering a Global Simulation Workshop that is a 'direct descendant of Buckminster Fuller's famous World Game. Accessed December 31, 2014 at: <http://www.osearth.com/>.

[99] Buckminster Fuller, "World Game."

[100] Jay Forrester. *Principles of Systems.* (Cambridge, MA: Pegasus Communications, 1968) 15.

[101] Unfortunately, they did not have the opportunity to adopt Okinawa as a real-time case study, but it would have represented a perfect place to refine their work.

[102] Toward this end, I have been working directly with ecological experts over the past several years to develop a theoretical model which uses these historic influences to create a modified version of a food web, which I refer to as a "BASEmapping" model. Later chapters will incorporate this tool to organize and manipulate the images and data that play a part in proposing a new approach to *genius loci*, as a theoretical concept for describing the uniqueness of Shuri-jo and other militarized environments.

[103] Donella Meadows. *The Limits to Growth*, (White River Junction, VT: Chelsea Green Publishing Company, 2004, Fifth Edition, 1972, First edition) 1.

Meadows includes "without intention" as another qualifier of overshoot, but this aspect may not be applicable to Okinawa, since the military analyzed and controlled their policies and practices that dramatically transformed the island's natural and urban environment. She argues that three causes of overshoot are always consistent: "First, there is growth, acceleration, rapid change. Second, there is some form of limit or barrier, beyond which the moving system may not safely go. Third, there is a delay or mistake in the perceptions and the responses that strive to keep the system within its limits.

[104] Donella Meadows. *Thinking in Systems: A Primer*, (White River Junction, VT: Chelsea Green Publishing, 2008) 3.

The well-known parable of the blind men and the elephant, for example, represents a central tenant of Forrester and Meadows, linking them with Fuller and other Gestaltian theorists: "The behavior of a system cannot be known just by knowing the elements of which the system is made."

[105] This is exactly what was missing in the USCAR reports: even though the amount of data was extensive, it was not cross-referenced, or used to propose scenarios for how a project or system could be improved in the future.

[106] Meadows 14.

[107] Working at MIT, Meadows worked constantly with computers and experts in computer sciences, but she also emphasized the importance of human thought and feeling: "Living successfully in a world of systems requires more of us than our ability to calculate. It requires our full humanity–our rationality, our ability to sort out truth from falsehood, our intuition, our compassion, our vision, and our morality." Web. Accessed February 23, 2015 at: <http://www.donellameadows.org/archives/dancing-with-systems/ >

[108] Donella Meadows. "Dancing With Systems," (*Donella Meadows Institute*, May 18, 2004). Web. Accessed February 23, 2015 at: <http://www.donellameadows.org/archives/dancing-with-systems/>.

As a way to navigate the uncertainty of systems dynamics, Meadows suggests that we look for leverage points – places in the system where a small change could lead to a large shift in behavior.

[109] Gartner, Inc. Web. Accessed December 31, 2014 at: <http://www.gartner.com/newsroom/id/1731916>

Gartner claims to be "the world's leading information technology research and advisory company" and defines big data as "a popular term used to acknowledge the exponential growth, availability and use of information in the data-rich landscape of tomorrow." They point to three primary variables to describe big data: Volume (the increase in data volumes is caused by transactions as well as by new types of data. Too much volume is a storage issue, but too much data is also a massive analysis issue.); Variety (IT leaders have always had an issue translating large volumes of transactional information into decisions; now there are more types of information to analyze, mainly from social media and mobile); and Velocity (how fast data is being produced and how fast the data must be processed to meet demand, involving streams of data, structured record creation, and availability for access and delivery).

[110] United States Civil Administration of the Ryukyu Islands (USCAR). *Civil Affairs Activities in the Ryukyu Islands.*

USCAR worked in cooperation with GRI administrators to collect and analyze statistical data, which included regular reporting mechanisms as well as periodic surveys. The first issue of USCAR's *Civil Affairs Activities in the Ryukyu Islands* was published for the period ending 31 December 1952; the statistical data was integrated into the narrative body of the report in this document. Subsequent reports separated the statistics into a separate section at the end of the documents. As the amount of data increased, this latter reporting style was easier to quickly review quantitative results. However, the separation of qualitative and quantitative information arguably increases the perceptual gap between the two, making comprehensive interpretations more difficult.

[111] The upside of USCAR's regular reporting process is its documentation that tracks frequent patterns over time. The downside is that it requires significant time and effort to document extensive formulaic documents –

tasks that were much more time-consuming and boring prior to advanced computer applications. Another downside is the risk of human error, stemming from different people responsible for frequent reporting of large amounts of data over long periods of time. The frustration of these bureaucratic requirements is expressed throughout correspondence by MSU instructors stationed in Okinawa.

[112] USCAR, 30 June 1953:71.

[113] USCAR's semi-annual reports provide valuable insights into America's general strategy and performance in reconstructing Okinawa. The classified documents are comprehensive in nature and very thorough, but generally lack in-depth local perspectives to balance the American reporting, which nearly always presented an optimistic view of the world. This helped to justify their ongoing mission and enhance the likelihood of continued financial support from Congress. To further this point, the first chapter of every report began with a section on economic development, which profiled the advances in production and progress in moving the territory towards modernization and economic self-sufficiency.

[114] There is no evidence that Fuller, Forester, or Meadows attempted to gain access to information on Okinawa, but they found other locations around the world to apply their theories of synergetics and carrying capacity. Now that much of USCAR's vast data has been declassified, Okinawa represents a unique opportunity to revisit these types of systems-based analyses to understand the radical transformation of the island's ecological, economic, and social systems, and to anticipate future changes with scheduled transfers of additional military lands.

[115] USCAR, 31 December 1952: 1.

[116] Purves (Chapter 4) 1.

Purves online book *Island of Military Bases* includes a chapter titled "Postwar Okinawa," that analyzes the property rights debate in great detail, providing an in-depth understanding of the emotional and political magnitude of this ongoing controversy. Purves traces the U.S. legal authority to control private property for military uses to stipulations from the 1907 Hague Convention ruling: "Whilst somewhat antiquated, the international Convention provided initial legal basis for the land acquisitions that so dominated postwar Okinawa, and defined America's obligation toward the occupied territory and inhabitants."

[117] Obermiller 158.

Obermiller indicates that "between 1946 and 1949, Okinawa's population tripled" after the return of repatriates.

[118] Smits 14.

[119] Morton Dan Morris. *Okinawa: A Tiger by the Tail*. (New York: Hawthorn Books, Inc., 1968): 78.

He also reports that the island comprises 290,555 acres (454 square miles); with a population of about 1 million in 1968.

[120] United Nations General Assembly ("World Summit Outcome, Resolution A/60/1," 2005).

As a working definition for sustainability, I rely on the United Nation's definition which requires reconciliation of environmental, social equity and economic demands. Web. Accessed November 12, 2013 at: < http://www.un.org/womenwatch/ods/A-RES-60-1-E.pdf>

[121] Sutton 320.

[122] Most professional architects, landscape architects, and planners regard LEED as a successful program which continues to grow in acceptance and recognition in the U.S. and abroad.

[123] Nancy B. Solomon. "How Is LEED Faring After Five Years in Use?" *Architectural Record* (Jan 24, 2006) 1. Accessed: February 15, 2015 at: <http://archrecord.construction.com/resources/conteduc/archives/0506edit-1.asp>

[124] Andre Shashaty. "Duany Predicts Decline of Strict Green Building Standards," *Sustainable Communities Magazine* (March/April, 2011) 1. Accessed: February 15, 2015 at: <http://www.p4sc.org/articles/all/duany-predicts-decline-strict-green-building-standards>

"Smart growth" is a common term associated with environmentally-conscious design, encompassing architecture, infrastructure, landscape, transportation and other elements of the constructed landscape. For a more detailed description, see: <http://www.smartgrowthamerica.org/what-is-smart-growth>.

[125] For U.S. military forces tasked with reconstructing Okinawa, their exposure to violent typhoons also reminded us of Nature's unpredictable power.

[126] Benyus: Introduction page.

[127] While testing the model during field work in the Yucatan Peninsula with a group of scientists from KU, I was struck by the region's unique topographical features and diverse geography. After many fascinating conversations in mangrove swamps, sandy beaches, and dense jungles, a geophysicist helped me to understand that "nature" includes biotic and abiotic systems, or living and non-living systems. I found it strange that the sustainability models that I had been using did not account for this duality, so I have incorporated the realization into a modified approach for describing interrelated systems.

[128] Having worked as a beta testing site for a particular "mind-mapping" software company called Mindjet, I have been fortunate to have had the opportunity to explore the program's vast capabilities and push its limits to accommodate my interest in networks and systems. Mind Manager is a California-based software company which produces the industry's leading mind-mapping software, known as Mindjet. The software is available for a free trial period, but requires a paid subscription for extended use. See: < http://www.mindjet.com/mindmanager/>

[129] Creative use of this and similar mind-mapping softwares enable designers to incorporate an exponential amount of factors and influences in the process to understand and design place.

[130] Phylogenic structures compose biological organizations, similar to the well-known biological model of the "Tree of Life."

[131] A digital image or a Word document, for example, could be linked to a variable. When a representative icon is clicked, that document will appear in an adjacent frame.

[132] In this configuration, the variables conceptually functioned like filters between the vast world of information "beyond" the frame and the organized information "within" the frame.

[133] For the purposes of this paper, I will incorporate my working model to illustrate my further thesis discussion on the concept of place at Shuri-jo.

[134] Robert Sack's theory of space and place included a matrix composed of ten tendencies and 14 combinations, which provide a number of rich opportunities to conceptualize human geography in new ways.

Yet his model remains a static diagram with little ability to interact with it or manipulate variables within its structure.

[135] My hope is that this systems-based endeavor may inspire designers and other creative thinkers to enhance their understanding of what makes a place unique, and broaden their critical thinking as they push the boundaries of understanding and designing within an expanded conceptualization of a place's *genius loci*.

[136] Prezi is another software which has become popular to use, creating a more dynamic visual presentation. But the basic format still relies on similar arrangements of image and text that Powerpoint uses.

[137] I have personally tested and presented all these presentation techniques. The dual laptop-projector approach has been interesting and dynamic, but much more challenging to maintain a coherent narrative and also runs the risk of losing track of where certain information resides. I have also tested three separate laptops and projectors, and oriented the screens and seating arrangement in various configurations. Likewise, the approach was certainly interesting and dynamic, but more conducive to worksessions or charrettes, rather than lectures or presentations.

[138] The Human Genome Project is an international scientific research project with the goal of determining the sequence of chemical base pairs which make up human DNA, and of identifying and mapping all of the genes of the human genome from both a physical and functional standpoint.

[139] Robert Sack. "The Power of Place and Space," *Geographical Review*, Vol. 83, No. 3 (Jul., 1993) 328-329.

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[140] "BASEmapping" is also a play on words, which will be familiar to architects and engineers. A "base map" is understood as a document of a site that delineates the existing conditions, such as property lines, building locations, streets, landscape features, etc. As such, it is regarded as the essential starting point of a design. The second play on words relates to the military theme of this project. More specifically, this thesis partially addresses the complication of U.S. military "bases" in Okinawa. This discussion will evolve in future sections of the paper.

Chapter Two Notes

[141] Sarantakes 37.

[142] USCAR exhibited a classic "apparatus of state coercive power" in their hegemonic domination of the Okinawans, following Gramsci's notion of the state manufacturing consent through power and money. Yet they also encouraged the Okinawans to build up their own skills, resources, and power as essential ingredients to fulfill basic American democratic principles, which eventually steered Okinawa away from American identity towards a Japanese identity. Complete reversion of Okinawa from U.S. to Japanese sovereignty occurred in 1972.

[143] Mizoguchi 4, 7.

In his military history of Okinawa, Masahide Ota also notes how the U.S. military identified and exploited the perceived cleavage between Japan and Okinawa, the latter regarded as inferior to mainland Japanese. Military strategists "believed that the underlying dislike between them can be readily exploited for psychological warfare purposes …"

[144] "Showcase for democracy" was a term used in speeches and media reporting by the U.S. military.

[145] Stuart J. Seborer. *Report of Stateside Activities Supporting the Reorientation Program in Japan and the Ryukyu Islands*. (Washington DC: Reorientation Branch, Office for Occupied Areas, Office of the Secretary of the Army, U.S. Department of the Army, 1950) 1.

Masahide Ota cites another source to make an even more blunt point that Okinawa was not an altruistic project, quoting Brigadier General William Crist commenting that "We have no intention of playing Santa Claus for the residents of the occupied territory." (Ota 10)

[146] Kerr 44.

[147] U.S. Army. *Keystone* film. Segment 8:34 - 8:55.

[148] Sarantakes xxi.

[149] Obermiller 24-25.

[150] James Howard Kunstler. *The Geography of Nowhere*. (New York: Touchstone, 1993) 105.

Architectural critic Kenneth Frampton echoes Kunstler's critique on suburban homogeneity, exhorting the design profession to consider a "regionally inflected" response to specificity of place in order to reverse the "sameness" of suburban wastelands that we have propagated.

[151] Mydans was well connected with the U.S. military, having taken several iconic photos of General MacArthur as well as other memorable wartime images. Mydans was also held as a prisoner of war for two years by the Japanese Army during WWII.

[152] Carl Mydans. "The Okinawa Junk Heap." *Life Magazine* (Vol. 54 Issue 22, Dec. 1949): 26.

[153] This was also a far cry from Commodore Perry's earlier description of a beautiful island "green and beautiful from the water, diversified with groves and fields of the freshest verdure."

[154] Leo Marx. *The Machine in the Garden*. (New York: Oxford University Press, 1964) 29.

[155] Marx 29.

[156] Marx 31-32.

[157] Substantial fill material was required for roadway and infrastructure projects.

[158] Donald Worster, Nature's Economy, (Cambridge University Press, 1994, Kindle AZW file) 6325.

[159] Warner 73.

[160] USCAR collected statistics on salvage operations and reported the progress in their economic development section of their semi-annual reports.

[161] King 54.

[162] Hiroyuki Arai. *Post-Conflict Reconstruction of Education and Peace Building: Lessons from Okinawa's Experience*. (Okinawa International Center and Japan International Cooperation Agency, 2006) 297. Web. Accessed Feb. 25, 2015 at: < http://jica-ri.jica.go.jp/IFIC_and_JBICI-Studies/english/publications/reports/study/topical/post_conflict/>

[163] United States Civil Administration of the Ryukyu Islands (USCAR), Public Affairs Office. *Summary of Okinawa News Items*, 1953, TS. University of Kansas. U.S. Federal Government, Federal Depository Library Program.

The fact that the unexploded ordnance existed in the school yard is problematic to begin with, but this anecdote illustrates that there were good-intentioned individuals on both sides, who were interested in improving an already bad situation, even if it meant putting their own life in danger.

[164] WWII photographs document an amazing diversity of how Quonset huts were adapted, expanded, and decorated by soldiers to accommodate various uses. But they were no match for typhoon winds, and suffered severe damage with the storms that hit Okinawa in the late 1940s.

[165] Okinawan villages were traditionally protected by stone walls and thick rows of trees, as detailed in Bixia Chen's study on *feng-shui* landscape practices in Okinawa. Her research is addressed in Chapter 3.

[166] King 54.

[167] Kinoshita 25-26.

In the next chapter I will discuss how these concepts form the basis for *sukiya*, a design principle that became directly linked to modern architecture in postwar Japan through the philosophy and design of one of Japan's most famous architects, Kenzo Tange.

[168] Hanna 2.

[169] Smits 4.

[170] Chizuru Saeki, "Democracy in Okinawa: U.S.-Okinawan Relations in the Cold War," *Virginia Review of Asian Studies* (Summer, 2006): 4.

[171] Mydans 19.

[172] Mydans 19.

[173] Frank Gibney, "Forgotten Island," *TIME* (54.22, Nov. 28, 1949): 26.

[174] Fisch 54.

[175] Aldo Leopold. "*Wherefore Wildlife Ecology?" (unpublished manuscripts).* N.D., Leopold Papers 9/25/10-6 Box 16 Folder 6 Item 32, 746-748. Web. Accessed Feb. 25, 2015 at: < http://www.humansandnature.org/aldo-leopold--reconciling-ecology-and-economics-article-122.php>.

[176] Aldo Leopold. *A Sand County Almanac, (*New York: Oxford University Press, 1949) 11.

[177] The U.S. military operation in Okinawa began on April 1, 1945, Easter Sunday, and the landing was referred to as "L Day" or "Love Day."

[178] According to the "Book of Revelation" in the *Bible's New Testament*, "Armageddon" will be the site of gathering of armies for a battle during the end of the world event. The word is of Hebrew origin, referring to a mountain or range of hills, or tells created by many generations of people living and rebuilding on the same spot. Accessed February 25, 2015 at: < http://en.wikipedia.org/wiki/Armageddon >.

[179] Eugene N. Anderson. *Ecologies of the Heart: Emotion, Belief, and the Environment*. (New York: Oxford University Press, 1996): 13.

This discussion on the "turtle tombs" (*kamekōbakas*) sheds light on the deep-seated passion inherent in the "people and land" theme that is central to political discord between the Okinawans and U.S. military.

[180] In this situation, Janine Benyus' "creative friction in the estuary" is out of balance. Here, the systems do not have enough order to maintain an ongoing identity, nor have limited chaos to allow for novelty and learning.

[181] Hanna 54.

[182] Kerr 50.

[183] USCAR built up large real estate and land use departments, led by legal experts like Major M.D. Morris.

[184] Ralph R. Pate, Lt. Col., Inf., Chief of Administratror, USCAR, letter to GRI Chief Executive, Nov. 26, 1954. TS.

[185] Morris 73.

On December 5, 1950, a directive to USCAR, issued by General Headquarters, FEC, stated that the United States would pay rental retroactive only to July 1, 1950, for land used by U.S. agencies in the Ryukyus. The directive also contained authorization to acquire a title to land and facilities needed permanently by the United States either by negotiated purchase or condemnation.

[186] Morris 80.

[187] Morris 80.

According to Morris the real estate office had about forty people on staff, "the majority of whom are Ryukyuan natives."

[188] Morris 73.

[189] Morris 74.

[190] Aldo Leopold. *Draft foreword to A Sand County Almanac* (1947), CSCA 285-86. Web. Accessed Feb. 25. 2015 at: < http://www.aldoleopold.org/greenfire/quotes.shtml>.

[191] As a small insight into the U.S. Army Corps of Engineers' attitude toward their abilities to transform the earth, the WWII newsletter of the 330th Engineers was called "The Bull-dozer."

[192] H.G. Wells is considered one of the century's most prolific writers and has elevated ecological awareness to unprecedented levels with influential novels and films including *The Island of Dr. Moreau* (1896), *Anticipations* (1901), *A Modern Utopia* (1905), and *Men like Gods* (1923).

[193] H.G. Wells, *A Modern Utopia*, (Hazleton, PA: Pennsylvania State University, 2004, Original publication 1905) 8.

[194] H.G. Wells, *Men Like Gods*, (New York: Ferris Printing Company, 1922): 46.

The dangers of technological eugenics are later echoed in Rachel Carson's influential environmental book, *Silent Spring* (1962). Wells' versatility also extends to academic endeavors such as his three-volume textbook set *The Science of Life* (1930), and to a precursor to Wikipedia called *World Brain* (1936-38) which was intended to make knowledge freely accessible to all world citizens.

[195] Ironically, some military sites like MCAS Futenma have supported flourishing natural habitats because much of the area has been off-limits to human activity for the past seven decades.

[196] Hanna was an officer with the U.S. Naval military government, and later the supervisor of Education and Culture for USCAR.

[197] Hanna 7.

[198] Hanna 7.

MG HQ refers to Military Government Headquarters. Hanna sent the bells and other artifacts to this location for protection and safekeeping until the new museum was built.

[199] Tze M. Loo. *Heritage Politics: Shuri Castle and Okinawa's Incorporation into Modern Japan, 1879–2000*. (Lanham, Maryland: Lexington Books) 159.

[200] Willcox and Suzuki 83.

Suzuki and Willcox use the *champuru* analogy for instances of cultural integration in Okinawa in their book, The Okinawa Program.

[201] Fisch 183.

[202] The U.S. Army produced a propaganda film by this name, as a remake of their earlier *Okinawa - Keystone of the Pacific* (1955).

[203] Fisch notes that this was also referred to as an "integrated military construction program." The initiative was formulated by Army Brigadier General George J. Nold, Assistant Chief of Engineers for Military Construction, who conducted a thorough study of military construction requirements on the island in October 1949. Following the advice of the Nold Report, Undersecretary Voorhees sent a team of economic planners and budget experts under Robert A. Martino and Lt. Col. F.C. Norvell to Okinawa in November to lay the groundwork for the multi-pronged construction program.

[204] USCAR (1951) 100.

[205] Hanna 10.

[206] Hanna 11.

[207] Morris 178.

[208] Edwin O. Reischauer, "Our Dialogue with Japan," *Foreign Affairs Newsletter,* U.S. Council on Foreign Relations. (January 1967): 2. Web. Accessed Feb. 25, 2015 at: < http://www.foreignaffairs.com/articles/23853/edwin-o-reischauer/our-dialogue-with-japan>.

Reischauer notes that Prime Minister Ikeda drew attention away from the controversial areas of defense and international alignment toward the safer field of economic growth with a "ten-year income doubling plan," which stimulated rapid urban development.

[209] Carola Hein. "Rebuilding Japanese Cities after 1945," *Change and Continuity in Postwar Urban Japan,* Eds. Carola Hein, Jeffry M. Diefendorf, and Ishida Yorifusa. (New York: Palgrave Macmillan, 2008) 3.

[210] Carola Hein. "Change and Continuity in Postwar Urban Japan," *Change and Continuity in Postwar Urban Japan*, Eds. Carola Hein, Jeffry M. Diefendorf, and Ishida Yorifusa. (New York: Palgrave Macmillan, 2008) 237.

[211] Kerr 550.

[212] MacArthur's formal title after the war was The Supreme Commander for the Allied Powers (SCAP), and seen ambivalently in Japan as conqueror and savior. The *Asahi Shimbun* newspaper published the "Lament for General MacArthur," on April 12, 1951, stating: "When the Japanese people faced the unprecedented situation of defeat, and fell into the *kyodatsu* condition of exhaustion and despair, it was General MacArthur who taught us the merits of democracy and pacifism and guided us with kindness along this bright path. As if pleased with his own children growing up, he took pleasure in the Japanese people, yesterday's enemy, walking step by step towards democracy, and kept encouraging us."

[213] Kerr 1.

Kerr also notes that the San Francisco Peace Treaty in 1951 gave the United States all rights over Okinawa and its people for an indefinite period.

[214] Fisch 179.

Martino and Norvell led a team of U.S. military economic planners and budget experts in charge of instituting the initial phase of Okinawa's "integrated military construction program."

[215] Many of USCAR's archives have been declassified, but have yet to be categorized. The vast media sources represent a wealth of future analytical opportunities from this period, yet appear to have been largely overlooked in the scholarship of Ryukyuan/Okinawan studies.

[216] The analytical discussion included here merely scratches the surface of this topic, and also suggests that the vast collection of USCAR film archives represents another untapped resource for future studies on Okinawa's environmental history.

[217] USCAR grew over its tenure in Okinawa, and included the following departments before being disbanded in 1972: Comptroller, Economic, Health, Education & Welfare, Labor, Legal Affairs, Liaison, Public Affairs, Public Safety, and Public Works.

[218] The mid-century building campaign that was driven by USCAR and GRI quickly established a new public image for Okinawa, especially for public buildings like schools and government buildings. Developed after Okinawa's reversion to Japan, the WWII memorials on the southern tip of the island represent another example of how architecture and landscape can create powerful cultural symbols that are experienced and interpreted differently by different people, accounting for their unique lived experiences.

[219] USCAR (1952) 17.

[220] Mark Gillem. *America Town: Building Outposts of Empire*. (Minneapolis: University of Minnesota Press, 2007) 33.

[221] Gillem xv.

[222] Hanna 12.

[223] Ikeda Takayuki. "War Damage Reconstruction, City Planning and US Civil Administration in Okinawa," *Change and Continuity in Postwar Urban Japan*, Eds. Carola Hein, Jeffry M. Diefendorf, and Ishida Yorifusa. (New York: Palgrave Macmillan, 2008): 132-133.

[224] Hein 4.

[225] Hein 4. Hein's argument that Japan does not have "strong tradition of visionary design" reflects a Western-influenced viewpoint that emphasizes the lack of cohesive street grids and public spaces. But Japanese urban design is arguably visionary in its own right, more connected to contextual patterns and natural systems than traditional Western cities.

[226] Morris 174.

[227] Takayuki 136.

[228] Dana Buntrock. *Japanese Architecture as a Collaborative Process*. (2001. New York: Routledge, 2014) 10.

Japan's Tokugawa (or Edo) period, which lasted from 1603 to 1867, would be the final era of traditional Japanese government, culture and society before the Meiji Restoration of 1868 toppled the long-reigning Tokugawa shoguns and propelled the country into the modern era.

[229] Hein. "Rebuilding Japanese Cities after 1945," 4.

[230] Takayuki 136.

[231] Takayuki reports that in 1953, Naha also began working on a plan for the city under the guidance of Ishikawa Hideaki, a professor and chair of Waseda University's city-planning department, who contributed to the plan to merge the two cities of Naha and Shuri.

[232] The map is drawn on transparent paper with black and red ink and colored pencil, approximately 24 inches by 30 inches in size, and gridded with a numbers-letters matrix on what appears to be a 1-kilometer grid. Tape marks on the edges suggest that it may have been overlaid on another map or aerial photograph used as a

reference base. All the names and terminology are in English, with no Japanese characters. Because of a few subtle grammatical mistakes in the labeling, I hypothesize that the actual drafting was done by an Okinawan, under the supervision of a USCAR manager. This was a typical relationship in the 1950s, with many Okinawan engineers and draftsmen directly employed by military offices.

[233] Ostry 55.

[234] The suffix "cho" refers to a township or district.

[235] Over 350 building names are included in the map. Most buildings are coded by a simple black dot; some public buildings are coded with a square symbol; hospitals are coded with a red cross.

[236] Early reports included only a few photographs of new public buildings, but as construction activity increased, more photographs were generously featured throughout the graphic design of the documents. For many years, the inside cover included a an iconic image of a new public building. As the construction boom subsided, the inside cover image featured USCAR's high commissioner, perhaps as a reminder of America's imperial authority; or perhaps as a way to personalize the benign leadership of the American government.

[237] U.S. Army. *Keystone* film. Segment 11:21 – 11:33.

[238] Fisch 178.

[239] Cherie Wendelken, "Aesthetics and Reconstruction: Japanese Architectural Culture in the 1950s" *Change and Continuity in Postwar Urban Japan*, Eds. Carola Hein, Jeffry M. Diefendorf, and Ishida Yorifusa. (New York: Palgrave Macmillan, 2008) 192.

[240] Dana Buntrock, *Materials and Meaning in Contemporary Japanese Architecture: Tradition and Today*. (New York: Routledge, 2010) 3.

[241] Ryudai's administration building, the first one constructed on campus, originally had a gabled roof, following the dominant roof form of most other prewar buildings in Okinawa. Nakaza Hiseo later designed a renovation that replaced the gabled roof with a flat roof, more consistent with the general international modernist aesthetic.

[242] Buntrock (2010) 3.

[243] The design of Ryudai's original administration building reflected a nod to traditionalism with the gabled roof and shisa decoration overlooking oncoming visitors. On the other hand, it also ushered in modern architecture to the campus, with its construction of masonry walls and a repetitive grid of simple windows. When it was renovated a few years later, architect Nakaza Hiso replaced the gable roof with a flat roof, further defining the building's modern architectural aesthetics.

[244] Buntrock (2010) 5.

[245] Naoki Isobe. "Nakaza Hisao and the Hana-block (Ornamental concrete block) Architecture and Crafts of Post-War Okinawa." N.D., N.P. Web. 25 Feb. 2015 <http://ci.nii.ac.jp/naid/110009799732>.

Isobe also links Hisao's use of the hana-block to a modern legacy that includes Antonin Raymond and Auguste Perret. The hana-block also has direct ties to FLW with his decorative concrete work at the Tokyo Imperial Hotel as well as several well-known residential projects in California.

[246] These passive energy design strategies have withstood the test of time, and are still incorporated into contemporary buildings today. Hisao's designs also exhibit narrow floor plates and cross ventilation, two other sustainable design features that are still recognized as effective design strategies.

[247] Kerr 10.

[248] Forrestal (1947) 65, Dod (1965) 651, Von Hoften (1972) 21-26.

[249] U.S. Army, *Keystone* film.

[250] David W. Moore, Jr., Justin B. Edgington, and Emily T. Payne. *A Guide to Architecture and Engineering Firms of the Cold War. Project Number 09-434.* (Washington DC: Department of Defense, Legacy Resource Management Program, 2010) 4.

[251] Figure 63 includes two smaller photos of the science building, which demonstrates perhaps the most interesting architectural relationship to the *aikatazumi* walls, by lightly spanning over them. The architects and builders exercised restraint by avoiding contact with the walls, similar to the aesthetic that Italian architect Carlos Scarpa famously executed in his Castelvecchio project, an interesting comparison to Ryudai. Scarpa designed a restoration of the 14th century Italian castle beginning in the late 1950s (See: < https://museodicastelvecchio.comune.verona.it/nqcontent.cfm?a_id=42545>).

[252] Tange and his fellow Metabolist architects practiced a prodigious exchange of modernism with American and European designers, but did not produce any buildings until the 1975 World Expo which celebrated Okinawa's 1972 reversion back to Japan.

[253] Marx 31-32.

Marx' analysis of Hawthorn's journal notes of Sleepy Hollow, Massachusetts in 1844 portrays the pastoral ideal as a necessity for understanding the modern industrial condition: "To understand his response to the machine we must appreciate the intensity of his feeling for the opposite, the landscape."(Marx 32) The juxtaposition between nature and machine is also evident throughout postwar Okinawa. Blackie's photograph of the quintessential seaside village and adjoining farmlands likewise establish a pastoral bookend to the radical changes that were introduced with USCAR's industrial-scale modernism.

[254]Anderson 10.

[255] Hanna 15

[256] USCAR (1951) 11.

[257] University of the Ryukyus. "Brief History," *Campus Brochure* (1963) N.P. TS. Okinawa Prefectural Archives. Records of the Government of the Ryukyu Islands: 1945 to 1972.

Chapter Three Notes

[258] Taiwan was referred to as "Formosa" during WWII, originating from the 16th century Portuguese sailors who named it *Ilha Formosa*, literally meaning, "Beautiful Island."

[259] Karl T. Wright, letter to Colonel Joseph F. Harbison, October, 1958. TS.

Wright expressed his initial impressions upon arrival in Okinawa: "There has been far more development, such as stores, fine office buildings, roads, and other facilities, than I thought possible. There appears to be a real building boom on, with something built in nearly every block. I'm impressed with the energy and will to work shown by the people here."

[260] Revering sites of former buildings or occurrences of significance are often memorialized and protected as a cultural asset.

[261] Military sites, as noted by many scholars of military history, often appropriate the most advantageous natural sites of a location to define strategic geographic advantage and to adapt a landscape to military technologies, like hilltops with panoramic vistas and outcroppings along shorelines to monitor watercraft.

[262] This would fit with America's early postwar political strategy to distance Okinawa from Japan, from a social and cultural perspective. An Okinawa that looked inward was easier to control, as opposed to an Okinawa that remained an extension of the Japanese mindset.

[263] This documentation will be important to establish as a precedent for later use in analyzing how MCAS Futenma and other military installations are related to their surrounding communities at a scale that expands beyond their immediately recognizable site boundaries.

[264] Chris Pearson. *Mobilizing Nature: The Environmental History of War and Militarization in Modern France*. (Manchester, Manchester University Press, 2012) 3.

[265] Pearson 2.

[266] This is unilateral in the sense that the American military have expressed desire to use private property for military use, but it must be acknowledged and facilitated by the Japanese central government. There are degrees of local approvals by the prefecture and municipal governments but these may be overruled by the central government. This political power struggle has been a constant source of tension in Okinawa and is the source of the current controversy involving a proposed air base in Henoko, a small town in the northern part of the island.

[267] Mayor Shimichi Higa, letter to USCAR Deputy Governor, May, 1955. TS.

As an example of questionable engineering practices, army engineers designed water drainage effectively within the property of Kadena air base, but were less successful in planning how the adjoining properties were impacted. Higa wrote to USCAR Deputy Governor in May, 1955 that "the drainage system at the Military zone occupied by Kadena Air Force for VW Company Camp site at Goya of this village, has been placed in a wrong way as the drain water run directly toward the villagers' area …. Consequently, on every rainfall, this Village Office site and all entrance roads thereto, have stagnant water accumulated for long hours, causing very unsanitary effects on the villagers' health …"

[268] Seawalls, for example, may help to protect shorelines from typhoon waves but disrupt intertidal ecological habitat and function. Canals may move supply fresh water and remove waste water, but also increase soil transport from terrestrial to marine environments. This contributes to Okinawa's "red soil" problem, a serious erosion condition that scientists link to industrial-scale agriculture, large-scale infrastructure, and military projects.

[269] Pearson 3.

The dissolution of military presence and replacement by community uses is an objective of the U.S. military's BRAC (Base Realignment and Closure) program, which is the congressionally-authorized process employed by DoD to reorganize its base structure to more efficiently and effectively support U.S. forces, increase operational readiness, and facilitate new ways of doing business. This has led to hundreds of base closures in the U.S. The first four BRAC stages, known as the "legacy rounds," took place in 1988, 1991, 1993, and 1995, which allowed DoD to evaluate its current structure with various operational criteria: changes in global threats, force structure, technologies, doctrine, organization, business practices, and plant inventory. DoD's recommendations were then reviewed by an independent commission before submitting for the President's approval, followed by Congressional review and approval. The potential property outcomes from the BRAC process are that it may or may not be available for reuse, and follows a phased implementation schedule guided by a local redevelopment authority representing both military and community interests. A significant point in this discussion is that the BRAC program is restricted to military property in the U.S., leaving the transition of overseas bases a much more difficult process for both the Department of Defense as well as the host nation.

[270] Hein 8.

[271] Obermiller 258 – 261.

[272] Smits 10.

Article 3 of the Peace Treaty with Japan specified with respect to the Ryukyu Islands that "the United States will have the right to exercise all and any powers of administration, legislation and jurisdiction over the territory and inhabitants of these islands, including their territorial waters." At the time of the treaty's negotiation, U.S. representative John Foster Dulles explained that "residual sovereignty" over the Ryukyu Islands resided with Japan, implying that at some point in the future the islands would revert to Japanese control."

[273] Sarantakes xviii.

[274] Sarantakes xix.

[275] Ota 12.

[276] Schwantes 4.

[277] As quoted in Sarantakes 76-77. Senate Appropriations Committee, Supplemental Appropriation Bill for 1957. Hearings before the Comm. on App., 84th Cong., 2nd sess., 6.

[278] Warner 93-94.

[279] Warner 94.

[280] Presumable taken shortly after the war, the building and landscape still show clear signs of distress from the bombing and fires. As indicated on the photo caption, the building was demolished shortly after the photo was taken.

[281] Naha was declared off-limits to non-military personnel for several years; likewise other villages and residential areas were restricted, making way for new military-related construction projects. As a result, the

personal effects of many residents were lost or destroyed, including bicycles, making adjustment to a new postwar reality even more challenging.

[282] Shimoji 2.

[283] While the new road system opened up access to various parts of the island that did not necessarily mean that all Okinawans had access to this benefit. Many residents did not own cars and were left dependent on public transportation, which took time to develop and operate. In some cases, former military vehicles were retrofitted into public vehicles to assist with transportation needs.

[284] Shimoji 94.

Shimoji notes that Atsuo Yamashiro, director of the GRI's Education Department, was instrumental in organizing local resources and spearheading initial school-building efforts. According to Warner, the one of the first actions of USCAR was to request a report on typhoon damages to the Island's schools from the Okinawa Gunto Government. On December 20, 1950, USCAR's Public Works Department announced that the reconstruction work could be started as soon as the proposed building plans were submitted and approved.

[285] Hope A. Diffenderfer. "The School without People," *The Key Reporter*, Vol. XVIII, No. 3. (May, 1953): 5.

[286] USCAR (1954) 47.

[287] Like other school structures, this building is designed to accommodate a potential third level, indicated by the structural columns that rise beyond the roof level. Roads, paving, and landscape features were typically added following the building's completion. As evidenced by current aerial photography, other nearby school buildings would likely be built nearby to form a campus-like configuration not unlike the prewar school complexes.

[288] Warner 72.

[289] Warner 124.

[290] Warner 124.

[291] As quoted in Sarantakes 76-77.

Stuart T. Baron, the director of economics and finances for the USCAR in material for the 1951 Senate Appropriations Committee during funding hearings.

[292] As quoted in Sarantakes 76-77.

Documents submitted to the 1951 Senate Appropriations Committee during funding hearings.

[293] Shimoji 4.

[294] Warner 47.

[295] Shimoji 5.

[296] Warner 48.

[297] Morris 53.

[298] Shimoji 4.

[299] Shimoji 4.

[300] The symbolic-real-imaginary triad of Jacques Lacan's three psychoanalytic orders, developed during a series of lectures in the 1950's, is an informative lens with which to interpret the transformation of Shuri-jo from its prewar to postwar state. The castle's architecture and gardens were identifiable symbols of the Okinawan community, represented by many visual and written representations. The rubble of the buildings and walls that remained after the bombing preserved the tactile materiality of Shuri-jo, and together with the sounds, sights, and smells of the site, represented Shuri-jo's postwar reality. And the geographical and topographical features of the site kindled collective memories of ritual and tradition, which represented the imaginary of Shuri-jo, as a new order that transcended prewar conditions of intact architecture and landscape.

[301] John Agnew. "Space and Place," *Handbook of Geographical Knowledge*. Eds. J. Agnew and D. Livingstone. (London: Sage, 2011) 1.

[302] Robert Sack. *Human Territoriality: Its Theory and History*. (Cambridge U.K.: Cambridge University Press, 1986) 2.

[303] Bruno Latour. *Resembling the Social: An Introduction to Actor-Network-Theory*. (Oxford, U.K.: Oxford University Press) 166.

[304] If USCAR's tagline for their construction initiative was an "integrated construction program," the new map of Naha indicates an "integrated urban campus program."

[305] Sack 3-4.

[306] "A Revised Draft of The Charter of the University of the Ryukyus, 22 April 1960." University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[307] Yi-fu Tuan, "Sign and Metaphor," *Annals of American Geographers*, Vol. 68, No. 3 (Sep., 1978): 368.

[308] Mizoguch 1.

[309] Phillip Drake. Reassembling Ecological Power: Nature, Capital, Empire in Moreau, Neuromancer, and Mars," (May 2008): 12-13. N.P. Web. Accessed Feb. 25, 2015 at: <http://libweb.hawaii.edu/libdept/pacific/drake.pdf>

[310] The site's geomorphology includes elements such as land form, topography, materiality, and other elements that are representative of the "Abiotic" condition of the BASEmapping framework. Key site features that survived the devastation of the war included elements of the site's constructed systems, such as the *aikatazumi* walls, road system, building foundations, and other elements that are representative of the "Social" condition of the BASEmapping framework.

[311] Drake 4-5.

[312] Koikari 77.

Koikari describes Hannah's presidency as MSU's "golden era" in which he guided an aggressive growth campaign, increasing student enrollment from 6,000 to 40,000 between 1941 and 1969.

[313] Koikari 79.

[314] President John Hannah was a leader who saw the world as a university, and Okinawa helped him to evolve MSC (Michigan State College) into the global institution of MSU (Michigan State University). He later became influential at the national level with international relations (USAID) and race relations (Civil Rights Commission), both critical themes to support American democratic ideals abroad.

[315] The first group of MSC advisors who arrived at Shuri for duty included Milton E. Muelder, Ernest L. Anthony, Russel E. and Hazel A. Horwood; Guy H., Eleanor B., and Ann S. Fox, Edward and Lois M. Pfau, Eleanor Densmore, and Horace C. King.

[316] William E. Jenkins. *Okinawa Isle of Smiles: An Informal Photographic Study.* (New York, Bookman Associates, 1951).

[317] This figure is graphically organized using the "dual window" dashboard configuration described in Chapter 2. In this case, a reference map is depicted in the left hand window, which geographically locates the subject at hand. In the right hand window, a related scene is included. By seeing both together, a more complete understanding of the event and the related place are visually integrated together. The icons and BASE tabs in the upper and lower margins permit for further interaction into either the place or the event. Using the softwares described in Chapter 1, the dissertation figures presented in this format are partially constructed with interactive properties, which are visible with a computer. However most are depicted as fixed graphics, treated as mock-ups ready to be programmed with additional labor and collaboration should such an effort be warranted.

[318] Milton Muelder and Ernest L. Anthony, letter to President John A. Hannah, July 11, 1951, TS. University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[319] Allan Tucker, "Assignment: Okinawa's University of the Ryukyus." *The Journal of Higher Education*, Vol. 28, No. 2 (Feb., 1957): 86.

[320] Muelder letter to Hannah.

[321] This combination, educators and builders, was precisely what the U.S. military needed in Okinawa, where they confronted an unprecedented challenge of reconstructing a community socially, physically, and economically.

[322] Russell Mawby. "Transcript of interview with Russell Mawby on May 17, 2001." Michigan State University, MSU Archives and Historical Collections. (May 17, 2001). Web. Accessed Feb. 25, 2015 at: < http://onthebanks.msu.edu/sohp/Object/2-D-BA/transcript-of-interview-with-russell-mawby-on-may-17-2001/>.

[323] While I have encountered no direct evidence, the similarity of architectural styles between mid-century MSU and Ryudai buildings would suggest some crossover of design influence. In the next chapter I discuss the direct influence of MSU professors on building programming and campus planning, but stopping short of architectural or landscape architecture design. I will also address how USCAR facilitated the involvement of both American and Japanese architects and contractors, who worked with the military to institute a modernist architectural agenda in Okinawa.

[324] By "transnational," I refer to the U.S. actors (the military and the MSU academics), the Okinawan actors (the newly elected politicians, Ryudai faculty/students, and residents), and the Japanese actors (contractors, architects, and educators). By "multi-layered," I refer to the spatial dimensions of the site (topography,

landscape, infrastructure, buildings, etc.) and temporal dimensions of the site (primarily identified as prewar, wartime, and postwar periods).

[325] Loo 161.

[326] As mentioned in the Chapter 1, Ryudai existed during the U.S. occupation of Okinawa at the Shuri site before being relocated and expanded at the nearby Nishihara campus. During this shift, the Shuri site was partially reconstructed with Sho-era buildings and grounds, and continued restoration and construction projects continue today.

[327] See Obermiller's detailed discussion of this point in his thesis (342-349), in which he argues that both parties were keenly aware of the significance of Shuri Castle and the meaning of establishing a university there.

[328] Originally built during the reign of Sho Sei (r. 1527 – 1555), Shurei-mon gate is a four-pillared, double-roofed structure in the Chinese architectural style of *pai lou* (or *pai fang*) arched memorial gateways. A plaque in the space between the two roofs, with the words, "*Shurei no kuni*" conferred upon the islands the title of "land of propriety."

[329] Loo 161.

Loo uses the term "*fukugen*" to describe the gate's construction, which means both reconstruction and restoration. The term confers "a sense of returning an object to existence" which includes representations of its original state and questions of authenticity.

[330] Loo 162.

[331] Loo 158.

[332] Isobe 2.

Isobe also documents that Hisao was employed for a short period by the U.S. Navy after the war, and that he acted as a bridge figure between the U.S. military construction mindset and the Okinawan and Japanese construction industries.

[333] Rem Koolhaas and Hans Ulrich Obrist. *Project Japan: Metabolism Talks.* (Koln: Taschen GmbH, 2011) 31, 103.

The Metabolism Group was formed at the 1960 World Design Conference in Tokyo. In Koolhaas' interview with Noboru Kawzoe, he described how he came with the name "metabolism" for their group: "The catalyst … was Marx. I was talking a lot about *shincintaisha* at the time, which means "regeneration" or "replacement of the old with the new." I was looking for something new we could put forth at the design conference. In Japanese, the same term is used in biology for 'metabolism.'"

[334] Koolhaas and Obrist 18.

[335] Koolhaas and Obrist 118.

[336] Kenzo Tange and Noboru Kawazoe. *Ise: Prototype of Japanese Architecture.* (Cambridge, Massachusetts: M.I.T. Press, 1965) 52.

[337] The lenses indicated on the diagram are representative, and should be expanded and modified to fit the respective problem that is addressed with the particular model.

[338] E.O. Wilson and Stephen Kellert (photographer). *A World in One Cubic Foot: Portraits in Biodiversity*. (Chicago: University of Chicago Press, 2012) 1.

[339] It is not clear when the castle was built, but most sources place its construction during the reign of Satto, king of Chûzan (r. c. 1355-1395), some as early as 1237, but all agree that it was definitely built by 1427, during the reign of Shô Hashi (r. 1422-1439), first king of the united Kingdom of Ryûkyû.

[340] Agency for Cultural Affairs, Government of Japan. "Gusuku Sites and Related Properties of the Kingdom of Ryukyu." *UNESCO World Heritage List Nomination.* (June 1999) 21.

The castle walls of *aikatazumi* (random stacking style) are constructed of coral limestone blocks and extend 1,080 meters in total length, measuring from 6 to 15 meters in height and 3 meters in thickness.

[341] If this Figure were illustrated with a live computer model of the BASEmapping website, the viewer would have the ability to zoom into and pan around the map on the left, to have a closer detail view of how the image on the right fits into the site plan.

[342] In many traditional Okinawan farm villages, the agricultural zones were held in common ownership, which contributed to a shared sense of stewardship and community.

[343] This photograph was taken from a roll of film that was found by U.S. Army Lt. Kowalis after the war amidst the ruins of Shuri castle, the location of the Japanese military headquarters during WWII. Kowalis' family recently published the photographs on the Internet, hoping that Okinawan family members may identify their loved ones and claim the photos.

[344] Agency for Cultural Affairs 104.

The UNESCO World Heritage nomination describes the stone walls as important contributions to the historic designation: "In the 10th-12th centuries, Ryukyuan farming communities (*gusukus*) began to enclose their villages with simple stone walls for protection. From the 12th century onwards powerful groups, known as *aji*, began to emerge. They enlarged the defences of their own settlements, converting them into fortresses for their own households; these adopted the term *gusukus* to describe formidable castles."

[345] Having visited with Dr. Suzuki on a number of occasions, I have benefitted from his vast experience to explore Okinawan lessons of health and wellness that integrate gardening, nutrition, cooking, an active lifestyle, and intergenerational social structure.

[346] Buntrock (2001) 11-12.

[347] Bixia Chen. "A Comparative Study on the Feng Shui Village Landscape and Feng Shui Trees in East Asia – A Case Study of Ryukyu and Sakashima Islands," *The Science Bulletin of the Faculty of Agriculture. University of the Ryukyus*, (55, Dec. 2008): 38.

[348] Kinoshita 7.

Chapter Four Notes

[349] Even though Shuri-jo's *seiden*, main courtyard, walls, and adjoining grounds have been restored additional archaeological work continues to be performed on the site. Additional buildings and gardens may also be reconstructed in the future, and other tourist amenities may be provided as well. In the adjacent residential and commercial zones, continued building updates and land uses evolve with changing ownership and market conditions, so the overall Shuri-jo site is still a very dynamic place.

[350] Pearson 3.

[351] Mizoguchi 1.

[352] Sarantakes 32.

[353] Gordon Warner and others claimed that the administration buildings was built on the ruins of the former hall of state, but the superimposition of archival site plan drawings with current positions of Shuri-jo buildings may raise questions as to whether these statements are accurate. Figure 104 would suggest that Ryudai's administration building is located further east from the Shuri-jo *seiden*. The drawings in this set of superimposition analyses utilize the best information available, so the exercise itself may admittedly include inaccuracies of its own.

[354] Neil Jackson. "Tradition and Modernity: Architecture in Japan after Hiroshima." Eds. Mark Clapson, and Peter J. Larkham. *The Blitz and its Legacy: Wartime Destruction to Post-war Reconstruction*. (Surrey, England: Ashgate, 2013) 13.

Nakaza Hisao later designed a modernized version of the administration building, which included more refined exterior detailing and materials. More significantly, he replaced the gabled roof with a flat roof, which set the course for other university buildings that followed.

[355] MSU worked with Ryudai administrators and instructors to also create long-term campus plans, which included building programming, space allocation, staffing projections, cost estimates, and other pertinent information appropriate for capital budgets. However, these documents stopped short of proposing any document resembling a physical campus master plan.

[356] Moshin Morita. University of the Ryukyus 50th Anniversary Book. (Naha: University of the Ryukyus, 2000) 99-118.

Ryudai's 50th anniversary book includes a series of photographs from the early days of the campus development, including aerial birds-eye views as well as ground-level views of university spaces, events, and people. While some general descriptive text is included, no detailed analyses accompany the images.

[357] Tucker 118.

[358] MSU Mission to the University of the Ryukyus, Internal Report to Dean Glen Taggart, (1953). Records of the Government of the Ryukyu Islands: 1945 to 1972. Okinawa Prefectural Archives. 4.

[359] Jack C. Elliott. "The 1956 Typhoon Season on Okinawa." *Proceedings of the Ninth Pacific Science Congress*. (Bangkok, Thailand: Secretariat, Ninth Pacific Science Congress, Volume 16, Oceanography, 1958). 316-317.

As part of his research at Ryudai in 1956-1957, MSU botany professor of botany and plant pathology, Jack Elliot analyzed typhoon-related impacts on agriculture, reporting mixed success with the condition of the windbreaks: "Crops were considerably retarded in their maturing … or the normal growing season was at a loss…. Windbreaks of Australian Pine (*Casuarina equisetifolia*), Pandanus, Hibiscus (*Hibiscus rosasinensis*), Garcinia (*Garcinia spicata*) withstood the typhoons and salt-spray with a varying degree of success."

[360] Chen 14-15.

In his 1960 farewell speech to his Ryudai colleagues, MSU professor Karl T. Wright imagined what the campus might look like a decade later: "Maybe five or six new buildings, with the campus well landscaped with trees, plants, grass and sidewalks." As the director of the agriculture department, Wright made significant strides in new programs and initiatives, but still wished for a more integrated landscape treatment within the campus itself.

[361] U.S. Army, "Keystone." film clip 13:35 – 14:20.

[362] USCAR. "Article I – Aim of Education." Office of the Deputy Governor. CA Ordinance Number 66, Change No. 2. 7 April 1953. UR Project Records Office Administrative Subject Files. University Charter – Supporting Documents (1952, 53, 56, 57).

[363] As depicted in William Heine's lithographs from Commodore Perry's 1853 visit to Okinawa, the inner court of Shuri Castle was not open to the general public, but only to imperial family and guests. While entertainment and ceremonies took place within the public spaces of the *seiden* and adjoining court, the front façade was not set up for public events like those that took place in front of Ryudai's administration building.

[364] The 1966 view of the campus is nearly built out at this point, marking a period when construction activities all but ceased as U.S. funding was eventually retracted. The U.S. foresaw the reversion of Okinawa to Japan, and pulled back financial support several years in advance; this void was replaced by Japanese funding working in the opposite trajectory.

[365] MSU librarian Osamu Shimizu, letter to David Heron (MSU advisor for new library, based at Stanford University), Jun 6, 1960. TS.

[366] In his history, "The University of the Ryukyus: Early Days," Yoshio Shimoji recounts that on May 2, 1950, the first entrance exams were administered to 931 applicants. On May 22, 1950, the university announced an acceptance of 562 students, celebrated in the auditorium that existed on the second floor of the administration building (this was later converted to administration/faculty offices in following years). No breakdown of male and female students are reported, but Warner Gorden mentions that there were twelve Quonset huts for male dormitories and four houses for female students, including a shared and kitchen/dining room.

[367] This type of spatial and visual analysis follows methodologies practiced in art history, film analysis, and architectural criticism, and represents an example of how a more in-depth and diverse inquiry can expand Norberg-Schulz' original *genius loci* approach, as described in Chapter 1.

[368] The assembled drawings have come from a variety of archival sources, without the benefit of sharing a common style, scale, or reference datum.

[369] Shimoji 2.

[370] For simplicity, I have elected to use the Sho-era buildings and *aikatazumi* walls as the graphic reference for the scale comparisons, since the Ryudai campus plans had so many iterations over its short time frame.

[371] Although both the Shuri and the Nishihara campuses have been documented in university histories and literature, I have not come across any physical comparison between the two, beyond simple photo collections. This scale comparison, on the other hand, establishes the stark contrast in geographical size between the two locations. A further comparative study along these lines might analyze the spatial characteristics of the central quadrangles and academic cores, to see how the how the two campuses are different and similar.

[372] The Campus Master Plan Work Team and Sasaki Associates, Inc. "2020 Vision: A Community Concept for the Michigan State University Campus." 6. (December 7, 2001). 6. Web. 8 Dec. 2014. <http://ipf.msu.edu/_files/pdfs/resources-campus-master-plan-2001.pdf>

[373] Dennis Domer, *Alfred Caldwell: The Life and Work of a Prairie School Landscape Architect*, (Baltimore, Maryland: The Johns Hopkins University Press, 1997) 6.

[374] The MSU campus also has limited campus access roadways, which are designed with meandering alignments that blend into the undulating landscape. There is no doubt that automobiles are secondary in importance to the landscape and pedestrian environment. Ryudai, on the other hand, is largely void of any landscape in the central space, and the roadways are engineered with straight runs and ninety-degree intersections – common formulaic solutions to which most traffic engineers would adhere.

[375] Like the photograph in Figure 115, the image has been manipulated in Photoshop to visually exaggerate the primary systems within the scene: buildings, *aikatazumi* walls, vegetation, and water.

[376] This photo angle is featured, for example, on the cover of USCAR's 1963 "Life on Okinawa" article featuring Ryudai, and in Iwao Ishino's magazine article celebrating Ryudai's fiftieth year anniversary. Professor Wright also chose to use this campus perspective in his detailed report on MSU's progress at Ryudai.

[377] Muelder 351.

Muelder also drew attention to Ryudai with a comment that the New York Times picked up in 1954: "Dean Milton E. Muelder … said that 'as a group' the Ryukyuan students 'represent higher capabilities than do students' at most universities in the United States." Muelder and his wife maintained life-long friends and colleagues in Okinawa, and regarded the experience as one of his most fulfilling academic experiences.

[378] Buntrock (2001) 8.

[379] Gert J. Van Tonder and Michael J. Lyons. "Visual Perception in Japanese Rock Garden Design," *Axiomathes* (vol. 15, 2005): 353.

[380] Kinoshita 38.

[381] Kinoshita wrote his book *Sukiya Japanese Architecture* following his experience in New York City, where the 1955 exhibition of the Japan House at the Museum of Modern Art launched a fetish with Japanese style in architecture, textiles, product design, and other artistic applications. While appreciative of the renewed attention, Kinoshita gently cautions the audience against engaging in superficial trends, arguing that "because this dependency upon fashion is such a weak basis for architectural advance, the New Architecture must ultimately turn to a renewed philosophy."

[382] Van Tonder and Lyons 67.

[383] Buntrock (2001) 11-12.

[384] *The Japan Architect, International Edition of Shinkenchiku*. Japanese Gardens (II)" (Semiannual Bound Volume, January – June, 1959): 91-92.

[385] Arata Isozaki. *Japan-ness in Architecture*. (Cambridge, MA: The MIT Press, 2006) 21.

[386] Isozaki 92.

[387] The hegemonic relations between the Okinawan, MSU, and USCAR leaders shifted over time. In the early years, the military displayed a visible control over campus design decisions, but their influence waned as Okinawan administrators gained greater experience, independence, and funding – especially as Japan stepped in as a major supporter in the 1960s, when plans for Okinawa's reversion to Japan gained traction. As for the MSU educators, their position of influence was more neutral (or at least intended to be so), with allegiance split between assisting their Okinawan colleagues and fulfilling contractual obligations to the U.S. military.

[388] A first-hand reporting of the challenges of MSU's assignment to "adopt" the nascent Ryudai enterprise is Horace King's PhD dissertation, "An Analysis of Educational-Administrative-Cultural Aspects of the Relationship Between the University of the Ryukyus and Michigan State University." King was one of the original five faculty members sent to Okinawa in 1951, as an advisor on business administration. He details the frictions as well as the solutions to overcome them, relating genuine efforts by Ryudai and MSU professors to work through their differences and the difficulties encountered with the military government. MSU leader Milton Muelder and other participating faculty have also written insightful accounts of their Okinawan tenures, most sharing some frustrations but unanimous in the positive effect and experience they had.

[389] Professor Alan Tucker, letter to Dean Glen L. Taggart, 16 October, 1958. TS.

The term "mission" was used by the U.S. military in their original project description, reflective of the terminology used with other military initiatives.

[390] Robert F. Carlson. "The Okinawa Project," 2. In Karl T. Wright "Michigan State University and the University of the Ryukyus: An Experience in International Cooperation (1951-1986)." (2006)

[391] J.D. Ryder, "Report on Inspection Visit to the University of the Ryukyus, February 27 – March 5, 1961." University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[392] W. Rhyme. Internal MSU Memo. (1964). University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

The basic process of siting building locations within the campus precinct became more challenging with each new building that was added, since real estate was limited and topographical constraints were challenging. In addition, unpredictable subsurface conditions resulted in cost premiums and schedule delays, as Rhyme describes: "Subsurface boring tests of the site were performed by U.S. Army Engineer District to insure proper structural design of foundation. The analysis test borings indicated that all structures should be supported on end bearing piles driven into the hard Shimajiri clay formation. This piling requires additional cost."

[393] Wright (2006) 3.

Wright noted that "President Asato of the University wrote to the Office of Civil Affairs in Washington while I was there saying that they attributed much of the progress of the University to the MSU advisory group's assistance."

[394] Colonel Joseph S. Harbison, letter to MSU Professor Raymond N. Hatch, July, 1962. TS.

Harbison wrote, "We are very proud of the growth of the University of the Ryukyus, in its physical plant as well as in its academic stature, and feel that much of the credit is due to the MSU group in its dedicated work." Numerous alternative scenarios are possible within this hypothetical discussion, but one important realization with this dissertation is to recognize the importance of what in fact did take place within the context of Ryudai's environmental history. Even though the original campus is now defunct, the early years of its messy, complicated, and bold design process is something that should not be ignored. For the university, this story is important to locate within its fascinating history. For the larger community, documenting the evolution of such an iconic site within a militarized context may provide some useful perspective on current issues involving the highly contested MCAS Futenma site.

[395] This commentary compares the Ryudai condition to the garden design principles previously quoted in the *Shinkenchiku* garden article above.

[396] In sector F-6, for example, the Physical Education Building label over-runs its allocated area, overlapping the building outline and castle walls.

[397] Karl T. Wright. "1959 – First Quarter Report – MSU Advisory Group at the University of Ryukyus." Submitted to Col. Joseph F. Harbison, Foreign Affairs Officer, Public Affairs Division, Office of the Chief of Civil Affairs & Military Government, Department of the Army. (July 6, 1959) 1.

[398] The National Security Act of 1947 provided for the establishment of a separate Air Force within the United States military.

[399] As a point of reference, the island of Manhattan covers approximately 14,500 acres. Most of the Air Force academy property, however, is undeveloped parkland.

[400] SOM had many military veterans on staff, and established a close relationship with the U.S. Army Corps of Engineers with their design of the top-secret Oak Ridge Laboratory complex in Tennessee during WWII. As a result, SOM was also recruited to design some of the military bases in Okinawa after the war. This fresh new architectural style was closely watched and emulated by Japanese and Okinawan architects. See Neil Jackson's *Tradition and Modernity: Architecture in Japan after Hiroshima* for an in-depth chronicle of Japan's postwar embarkation into modern architecture through a lineage tracing back to Antonin Raymond, Frank Lloyd Wright, Walter Gropius, Le Corbusier, and American firms like SOM.

[401] In 2004, fifty years after Congress authorized the building of the Academy, the Cadet Area at the Academy was designated a U.S. National Historic Landmark. SOM and other modern architects chose their photographers carefully, since the reproduced image was a critical factor in defining the work's modern aesthetic. The photographer of the image on the right is Stewart Commercial Photographers; Bill Hedrich is the photographer of the image on the right. While people are included in these photographs, they are treated as anonymous figures, used more for scale to highlight the iconic nature of the architecture and vastness of the public space.

[402] Robert Bruegmann. "Military Culture, Architectural Culture, Popular Culture," in Bruegmann, *Modernism at Mid-Century* (Chicago; University of Chicago Press, 1994) 97.

[403] Daniel J. Hosington. "National Historic Landmark Nomination. United States Air Force Academy, Cadet Area." (Washington DC: United States Department of the Interior, National Park Service, designated April 1, 2004) 6.

The extensive use of aluminum and glass made obvious reference to the Air Force's air and space planes and other equipment. A similar architectural quality is also found at the new Ryudai buildings, many of which have either piloti or first-level setbacks to lend the sensation that the buildings are floating above the rolling landscape.

[404] From 1943 to 1945, Kiley served in the U.S. Army. Due to his design background, he worked with the presentations branch of the Corps of Engineers in the Office of Strategic Services, where he became director of the design staff.

[405] Hosington 7.

The academy had more than 10,000 linear feet of concrete retaining walls, while Shuri-jo has about 3,500. The academy and the Shuri-jo walls were about the same height however, about 36 feet at their highest levels. The prestige of the project and SOM's reputation enabled them to trump opposing viewpoints of military officials who did not agree with the architects' design decisions, including the site selection and cost premiums for site grading and retaining walls (site preparation was reported to be $2.3 million in 1958).

[406] Architectural Forum Editor. "The Air Age Acropolis." *Architectural Forum* 10 (June 1959): 158-65.

The actual Acropolis in Athens is nearly identical in scale to Ryudai, in terms of site coverage.

[407] Colin Rowe and Fred Koetter. *Collage City.* Cambridge: MIT Press, (1978). 91.

[408] Rowe 93.

[409] The spelling and grammar mistakes on this document indicate that the draftsperson was likely Okinawan. Similar to other university and USCAR departments, American educators or officers often trained and managed Okinawan students and staff for various tasks such as drafting construction plans.

[410] University of the Ryukyus. "Report on Damage by Typhoon Sharlotte, University of the Ryukyus," (November 16, 1959).

[411] Michigan State University, "Commencement Program" (1956). The program lists several pages of gifts from corporate donors, including Carbide and Carbon Chemicals Company of New York City; Dow Chemical Company; Du Pont Company, Du Pont, Grasselli Chemicals Department; Ford Motor Company, Tractor Division; Johnson & Johnson; Merck & Company; Monsanto Chemical Company; and the Upjohn Company.

[412] Carlson 1.

[413] As Wright expressed in correspondence to MSU colleagues, he attempted to learn basic Japanese to help overcome the language barrier with his Ryudai counterparts. Others like Faye Kinder also made this effort. While they may not have mastered the language, their attempts to communicate in Japanese was viewed as a sign of respect and interest in Okinawan culture.

[414] Karl T Wright. "My Assignment, Memories and Forecast of the Future of the University," Farewell Speech at University of the Ryukyus. (June 9, 1960). University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[415] Wright (2006) 8.

[416] Miller O. Perry. Internal Report, Michigan State University. "Semiannual Report, Jan. 1 – June 30, 1968." 25. University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[417] Karl T. Wright. "Aims of the Michigan State University Advisory Group to the University of the Ryukyus." *University Review* (Sept. 1958). 1-2.

[418] King 81-82.

In his PhD thesis on Ryudai, MSU professor Horace King provided detailed background on the university and also conducted several interviews with Okinawan educators. King emphasizes the academic contrast between the Japanese "ivory tower" academic approach versus MSU's land-grant academic approach, clarifying, "By contrast, the 'charter' promulgated in USCAR Ordinance Number 66 for the UR states …'that its mission should be service to the community.'"

[419] Wright (1958) 1-2.

[420] Muelder 353.

[421] John Dewey was one of the most influential educational reformers of the early 20th century, recognized for his views that education is fundamentally a social process, and that the school is a social institution where open debate and reform should take place, a place for students to learn how to live. He also encouraged experiential education in which students and teachers participate directly with their curriculum and their environment.

[422] Richard Enfield. "Connections Between 4-H and John Dewey's Philosophy of Education," *FOCUS* (Winter, 2001): 5.

Enfield connects the hands-on, interactive learning style associated with 4-H and other similar extension programs to Dewey's "principle of continuity," which means that a student's experience is built on those which have come before, and that it will influence those that come after. Dewey's "principle of interaction" states that an individual's experience results from the interaction with his or her environment. Both principles work together to form a complete educational experience.

[423] University of the Ryukyus. "On Future Problems." (1966). University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[424] "Proposed Plan for the Establishment of a Marine Scientific Station of the University of the Ryukyus." (October 1963). University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[425] I use the description "intimate scale" knowing that Ryudai educators and administrators were mindful of the space limitations of the facilities. In other words, the constrained spaces may have been an inconvenience but they also fostered a higher degree of interaction.

[426] Yoshioka. "Publisher's Message." *The Japan Architect, International Edition of Shinkenchiku*. 1959.

[427] Raymond, a Czech American architect, lived and worked in the US and Japan, gaining experience through his experience with American architects Cass Gilbert and Frank Lloyd Wright. He leveraged his knowledge

and expertise in the use of concrete for texture and structure while based in Tokyo during the postwar building boom.

[428] Yukio Lippit. "Distillations: Gropius_Japan_1954." Web. Accessed January 10, 2015 at: <http://www.gsd.harvard.edu/#/projects/distillations-gropius-japan-1954-1.html>.

[429] Wendelken 200.

[430] Walter Gropius, "Architecture in Japan" *Pespecta 3, The Yale Architectural Journal* (1955): 16.

[431] This particular model farm home appears only once in USCAR documentation, suggesting that it was an interesting idea but not readily accepted by actual farmers. While the concept was apparently not implemented, its modular style is strikingly similar to current-day architectural concepts promoting modular design and passive energy systems. As such, it may be worth revisiting to explore whether the original idea could contribute to future sustainability strategies.

[432] U.S. Army, *Bastion* film. 10:23 – 10:53.

[433] Massey's local-global dynamics of place may also be applied to the importation of American suburbia to foreign places like Okinawa, indicating that such cross-fertilization is not always a positive exchange.

[434] Okinawa Federation of Sports Associations. "Evaluation on the University's Stadium," (c. 1955). University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[435] Loo 163.

[436] Loo 165.

[437] Ryudai President Genshu Asato, letter to Brig. General John G. Ondrick, February 2, 1960. TS. University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[438] MSU Home Economics Professor Faye Kinder, letter to "To Whom it may conern", July 21, 1959. TS. University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[439] Faye Kinder. Internal Memo, Michigan State University, June 25, 1965. University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[440] The frequent exchanges of letters, reports, and proposals between MSU, Ryudai, and USCAR officials appears as a kind of precursor to a modern-day Internet chat room. As such, it represents a fascinating body of archival material worthy of further analysis, using Mire Koikari's research as a point of departure.

[441] Like Professor Wright, Professor Kinder had a very outgoing and engaging personality, which helped to generate interest, excitement, and engagement. She also showed genuine respect and interest in the Okinawan culture, using some basic Japanese in her correspondence and engaging with local arts and crafts. Exhibiting authority as well as humility, Kinder was as much a student as instructor, and described the experience as one of the best in her life.

[442] Koikari 76.

[443] The proposed Home Economics Building comprises 18,000 sq ft with a total of 19 rooms; projected cost is $125,000.

[444] In the 1920s, Werner Hegemann, a German-born urban planning theorist and practitioner, and Elbert Peets, a recent graduate from Harvard's School of Landscape Architecture, created a partnership and collaborated to write *American Vitruvius*, which has become one of the classic texts in urban design theory.

[445] *American Vitruvius* is one of the models upon which I pattern this document, in terms of striking a balance between theoretical discourse and supporting analytical drawings, diagrams, and photographs.

[446] Werner Hegemann and Elbert Peets. *American Vitruvius: An Architects' Handbook of Civic Art*. (1922. Princeton, N.J.: Princeton Architectural Press, 1988) 14.

[447] Examples of especially interesting relationships of the modern buildings to the 13th century castle walls are illustrated in Figure 63, which depicts a restrained design solution of lightly spanning over the walls without touching them.

[448] MSU librarian Osamu Shimizu, letter to David Heron (Assistant Director of the Stanford Library), (May 30, 1960). TS.

While MSU librarian Osamu Shimizu appreciated the improvement of the new library facility, he also expressed his frustration at the building's deficiencies: "The most important problem confronting the Library at present seems to be that of preservation because of the high humidity. There is also a space problem, because the top two floors cannot be used for stacks because of the inadequate structural strength of the building." Although the engineering and construction technology at Ryudai had advanced significantly since the original temporary wood-framed academic buildings, a library's inability to support books seems like a grave error, making Shimizu's frustration completely understandable.

[449] USCAR (1955) 115.

[450] Yoshimitsu Narita and Hirosi Yabiku. *My First English Book*. (Naha, Okinawa: James W. Ney, 1963) 7.

Chapter Five Notes

[451] Horace King, Assistant to the Dean of International Studies, Michigan State University. Meeting notes regarding meeting between Ryudai President Yonamine and Ryudai officials with MSU President Hannah. (November 9, 1961). TS. University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[452] King (1961).

[453] Gordon Warner. Internal USCAR Memo. (January 1967). TS. Records of the Government of the Ryukyu Islands: 1945 to 1972. Okinawa Prefectural Archives.

[454] Horace King. Interview of President Asato (1955). TS. Records of the Government of the Ryukyu Islands: 1945 to 1972. Okinawa Prefectural Archives.p. 31.

[455] The USCAR archives, which are located at MSU, represent an unleveraged resource that could help to strengthen the bond between the two universities; this dissertation could hopefully contribute to that goal.

[456] The 1975 World Expo was held in Okinawa, in recognition of its return from American to Japanese sovereignty. The expo's icon was designed by one of Metabolism's star architects, Kiyonori Kikutake, who designed "Aquapolis," a floating pavilion that introduced a techno-utopian vision of sea-based cities. This gigantic machine was a prototypical module for this vision, was fabricated using new technological resources developed by the U.S. Navy. After the expo, Aquapolis was sold, dismantled, and sent to a scrap heap in Shanghai. Ironically, the current proposed Futenma replacement facility in Henoko, Okinawa is partially based on a similar technology of floating structures.

[457] Kinder (1959).

[458] Medoruma Shun. "We Cannot Allow Governor Nakaima to Falsify the History of the Battle of Okinawa," *The Asia-Pacific Journal*, Vol 10, Issue 15, No 2 (April 9, 2012): 3.

[459] Richard Florida. *The Rise of the Creative Class--Revisited: Revised and Expanded.* (2002. New York: Basic Books, 2014) xix.

[460] Florida xi.

[461] Benyus 24.

[462] I acknowledge that my methodology has limitations, but I am not intending on developing an entire website or software program within this dissertation. Rather, I intend on establishing a framework that can eventually be refined as I test out its potential during this endeavor. The framework could be subsequently developed into a more usable tool for designers at a later date, through a post-doctoral collaboration with a mathematician and/or software engineer. Although focused on Okinawa, I hope that this methodological approach will also serve a broader purpose, directed at architects, landscape architects, and planners who may be interested in applying an ecologically-based design methodology to complex projects. The wide range of variables in the BASEmapping model will also encourage collaboration with local public officials who are facing challenges of how to anticipate and plan for a post-military impact as a result of base closures in their town. Similarly, the U.S. military may also benefit from this framework, which may see the value in the model's ability to explore in-depth comparative analyses and design methodologies with future base realignments.

[463] Apache Indians have traditionally incorporated a similar approach to walking through nature, maximizing their visual awareness of the environment around them in a manner that has been described as "wide angle viewing." John Stilgoe writes of the multiple benefits of walking/observing as a peripatetic means of reconnecting with our primal need for existing and moving within Nature.

[464] John Stilgoe. *Outside Lies Magic: Regaining History and Awareness in Everyday Places*, (New York: Walker Publishing Company) 6.

[465] James E. Wilson, Terroir. (London: University of California Press, 1964) 4.

[466] Haas, Robert. "Terroir, Then and Now" in Blog Tablas Creek. October, 2008. Web. 16 May, 2011. <http://tablascreek.typepad.com/tablas/2008/10/terroir-then-an.html>.

[467] MCAS Futenma is approximately 481 hectares. Source: Okinawa Consolidation Plan. (April, 2013) 21. <http://www.defense.gov/pubs/Okinawa%20Consolidation%20Plan.pdf>

[468] As a result of force reductions, relocations, and consolidation, DoD's realignment strategy is described as an effort to reduce the "long-desired return" of MCAS Futenma along with other military sites south of Kadena. While this document goes to great lengths to emphasize the intention to "strengthen U.S. cooperation with the Government of Japan and local communities" no mention is made of how to address cleanup of military-induced environmental contamination on these properties. Since then, the much publicized commitment to return MCAS Futenma Air Station to Japan has been mired in local resistance to U.S. military presence and in identifying a suitable replacement facility site. See: U.S.-Japan Alliance: Transformation and Realignment for the Future: <http://www.mofa.go.jp/region/n-america/us/security/scc/doc0510.html.>

[469] MSU Dean of International Studies, Glen Taggart. "Discussion Material For Our Future." (Summary of letter from Taggart to Ryudai-MSU Advisory Group – November 17, 1961." TS. University of the Ryukyus Project Records. University Archives & Historical Collections. Michigan State University.

[470] A long-time personal friend describes this type of situation as "we don't know what we don't know," which would suggest that information-gathering and site analysis phases would be valuable before actually proposing definitive land use and programming plans.

[471] As mentioned in note 260, military sites, as noted by many scholars of military history, often ` geographically advantageous sites for military or political purposes. In Okinawa, the farmlands represented a clear example of this practice, since the flatlands were perfectly suited for the long runways associated with the new military air bases. The narrow island geography also provides direct access to the Pacific Ocean and the East China Sea. Military sites like MCAS Futenma are also rich with technological infrastructure, which also represents an inherent benefit and advantage to further examine.

[472] Masayuki Sasaki. "Sustainable Development in Okinawa for the 21st Century." *Okinawa: Cold War Island.* Ed. Chalmers Johnson. (Cardiff, California: Japan Policy Research Institute, 1999) 198.

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_____ "Okinawa, the island rebuilt," *The National Geographic Magazine*, Vol. CVII, No. 2. (February, 1955): 265-288.

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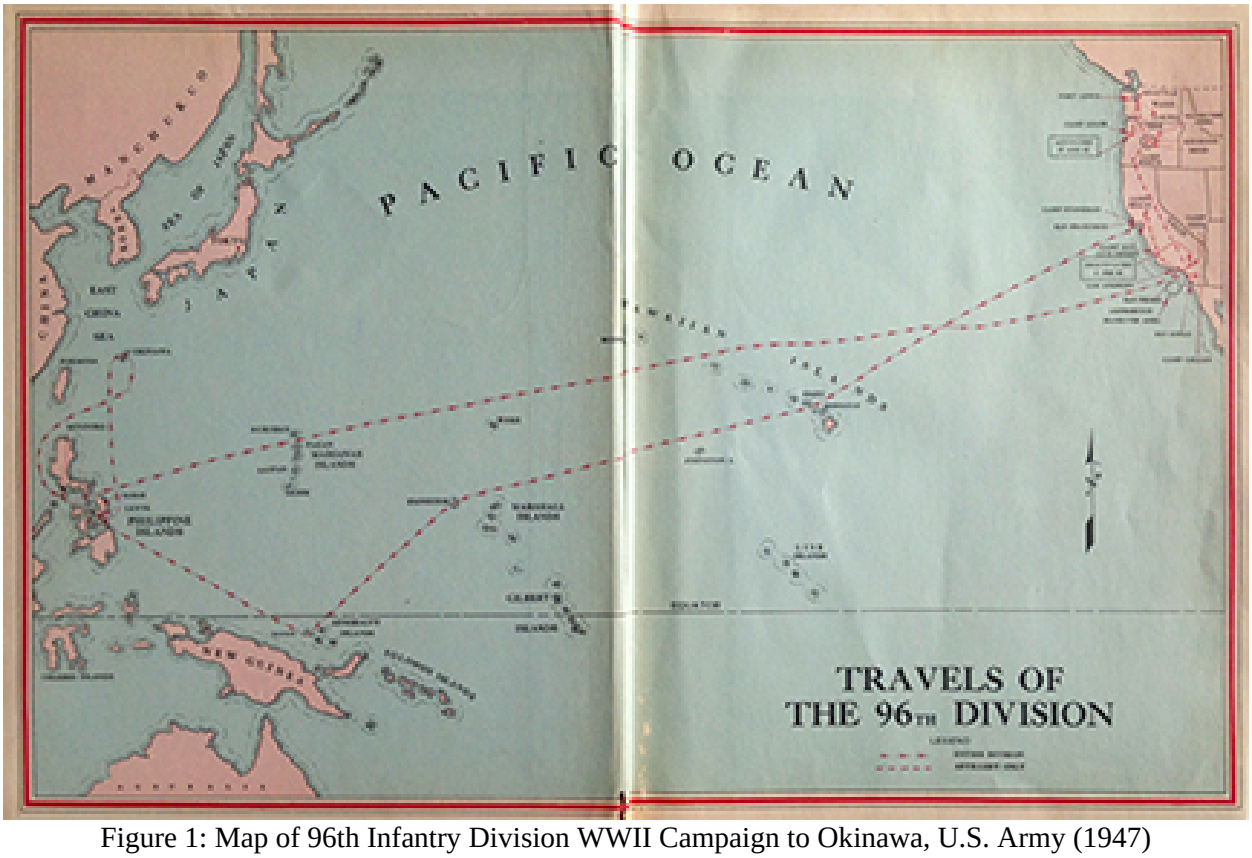

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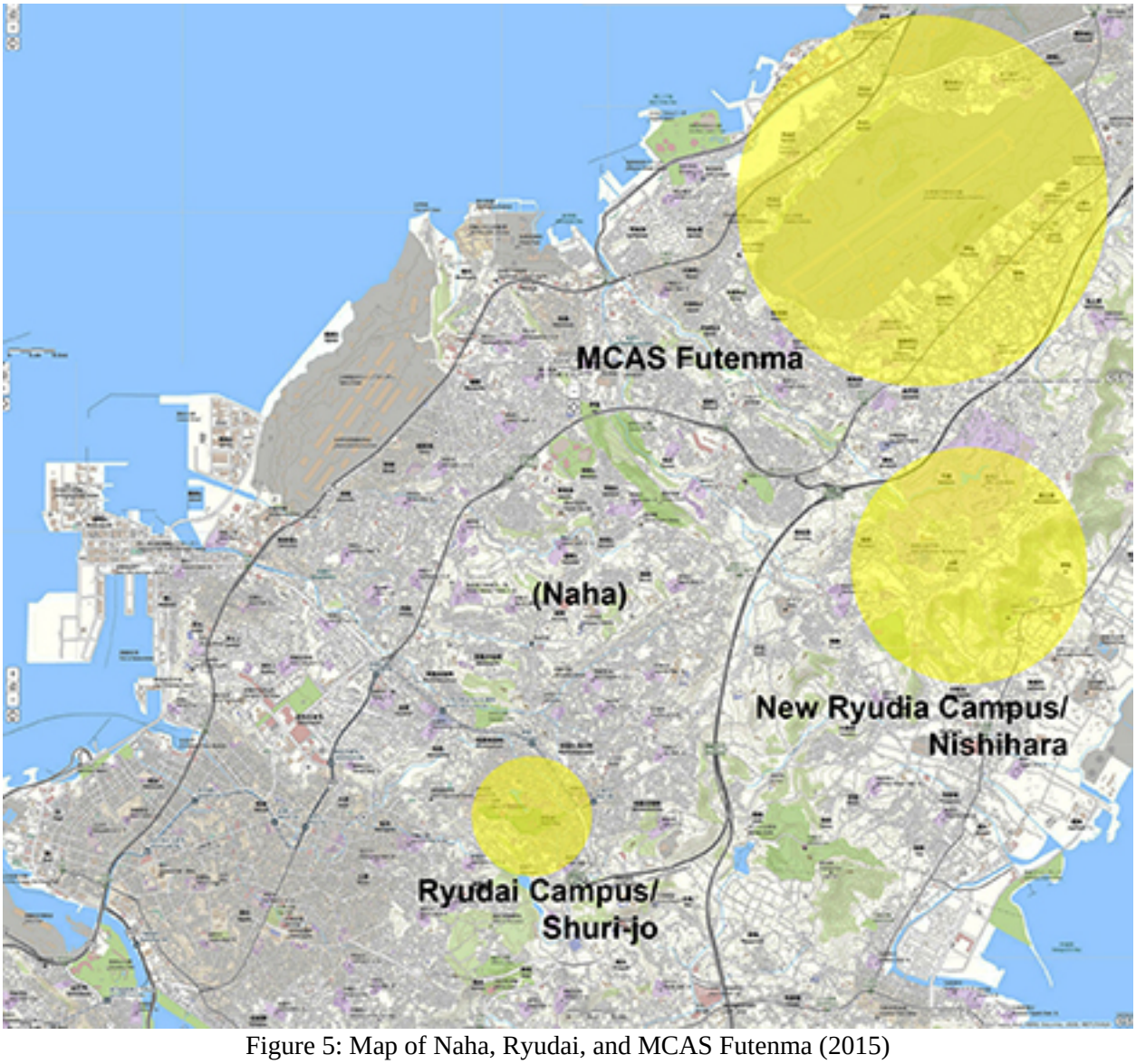

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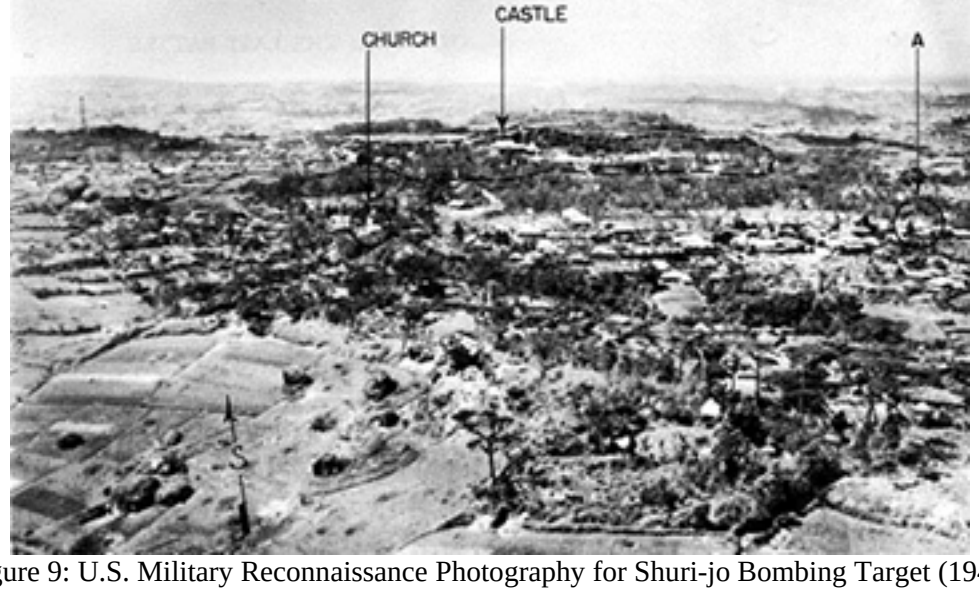

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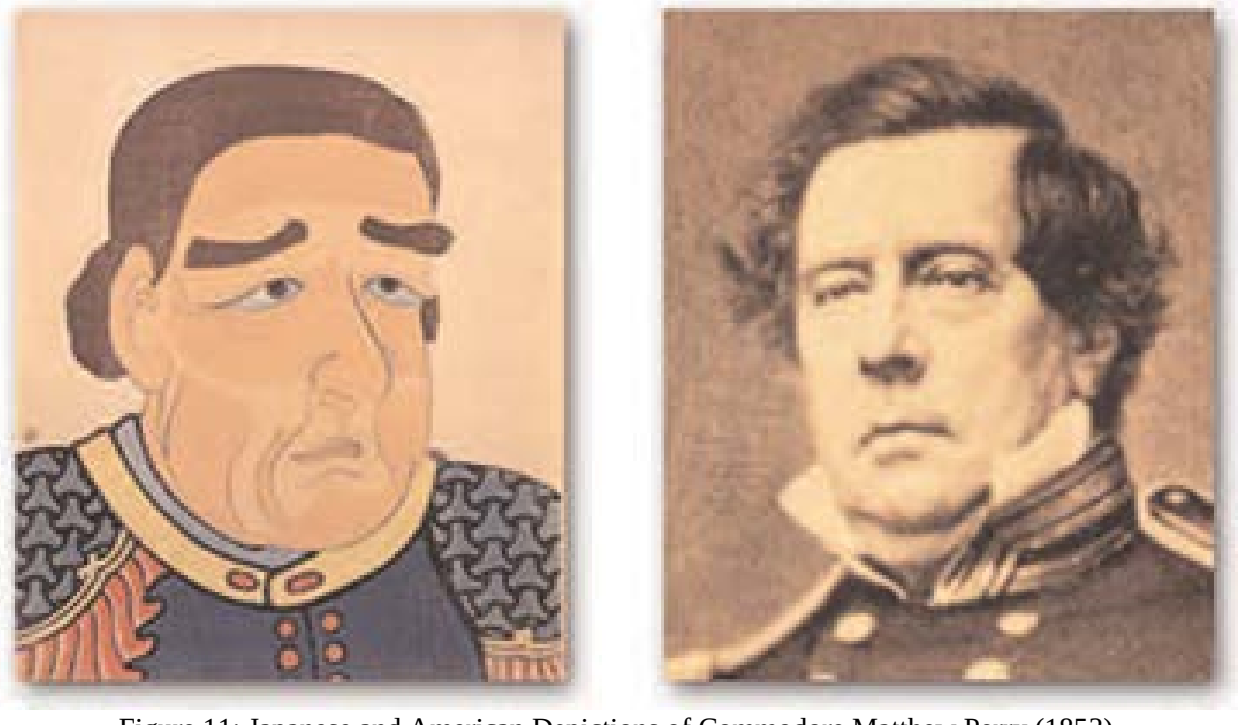

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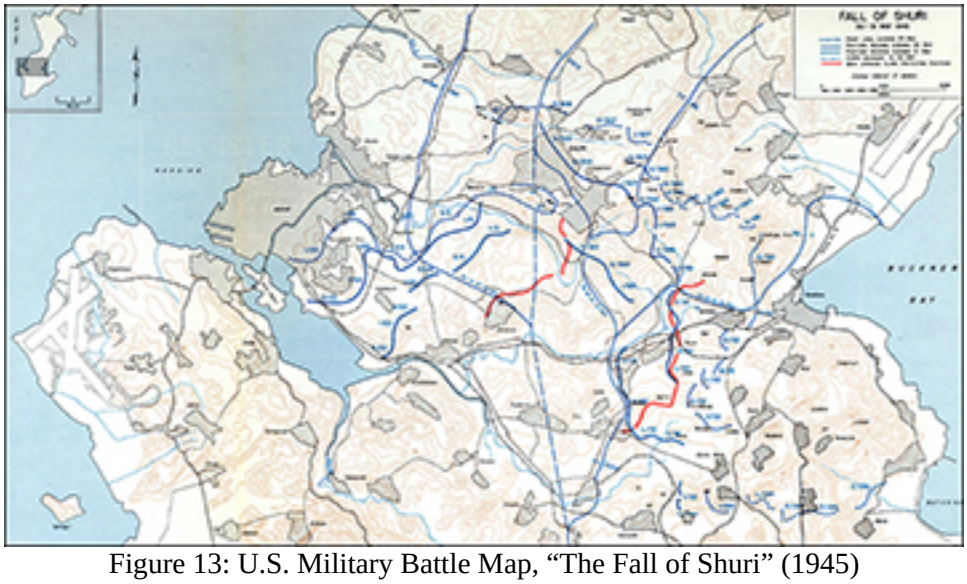

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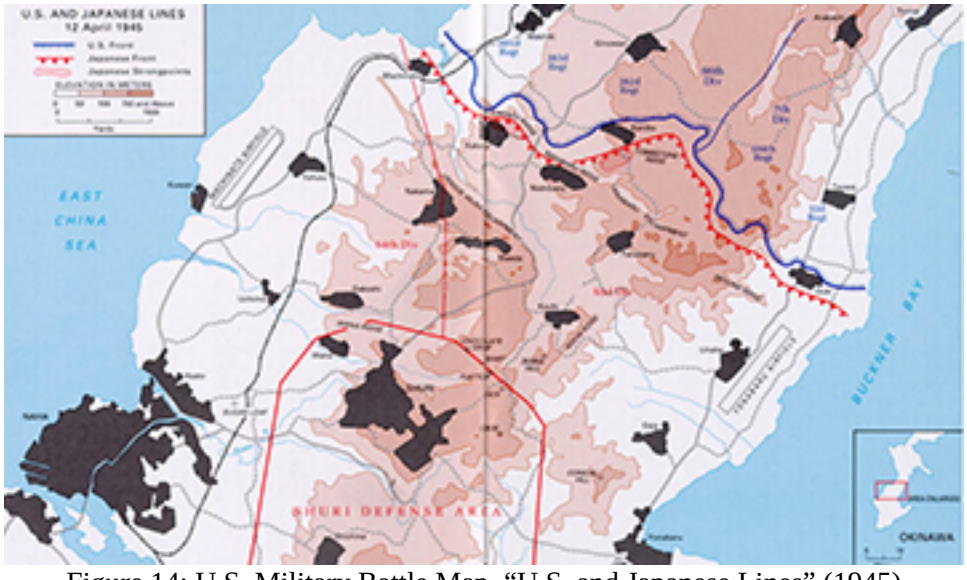

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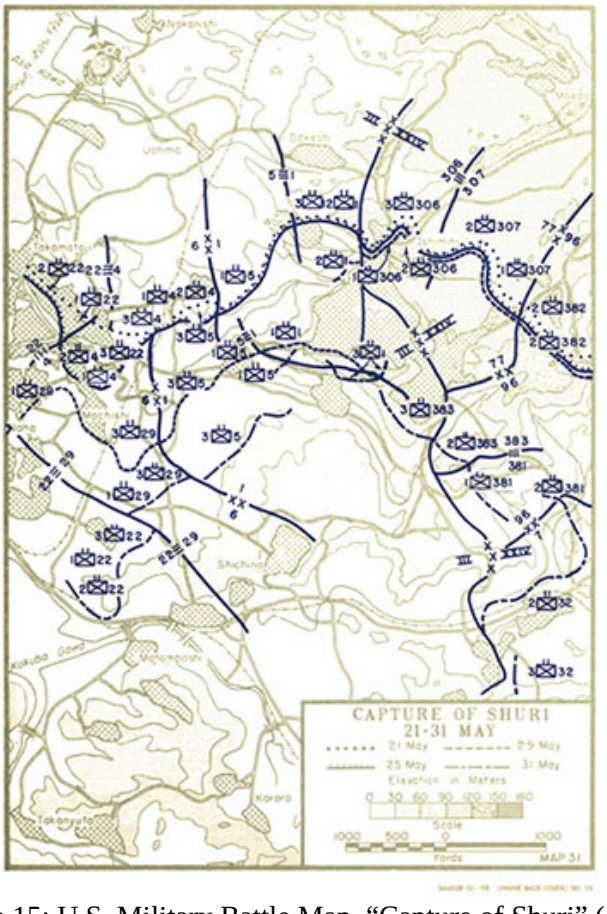

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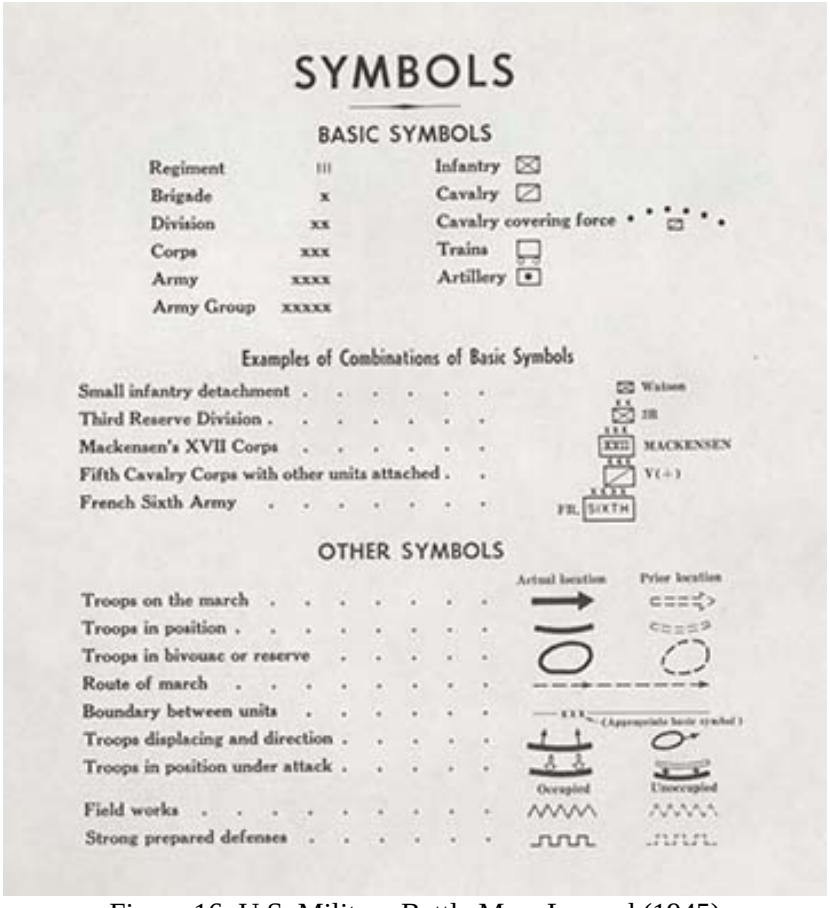

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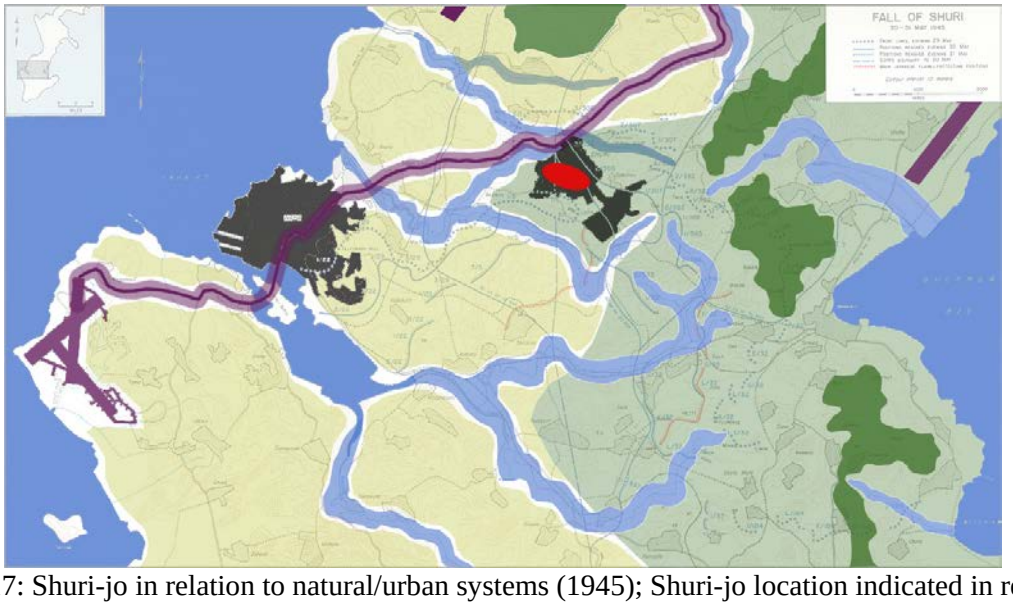

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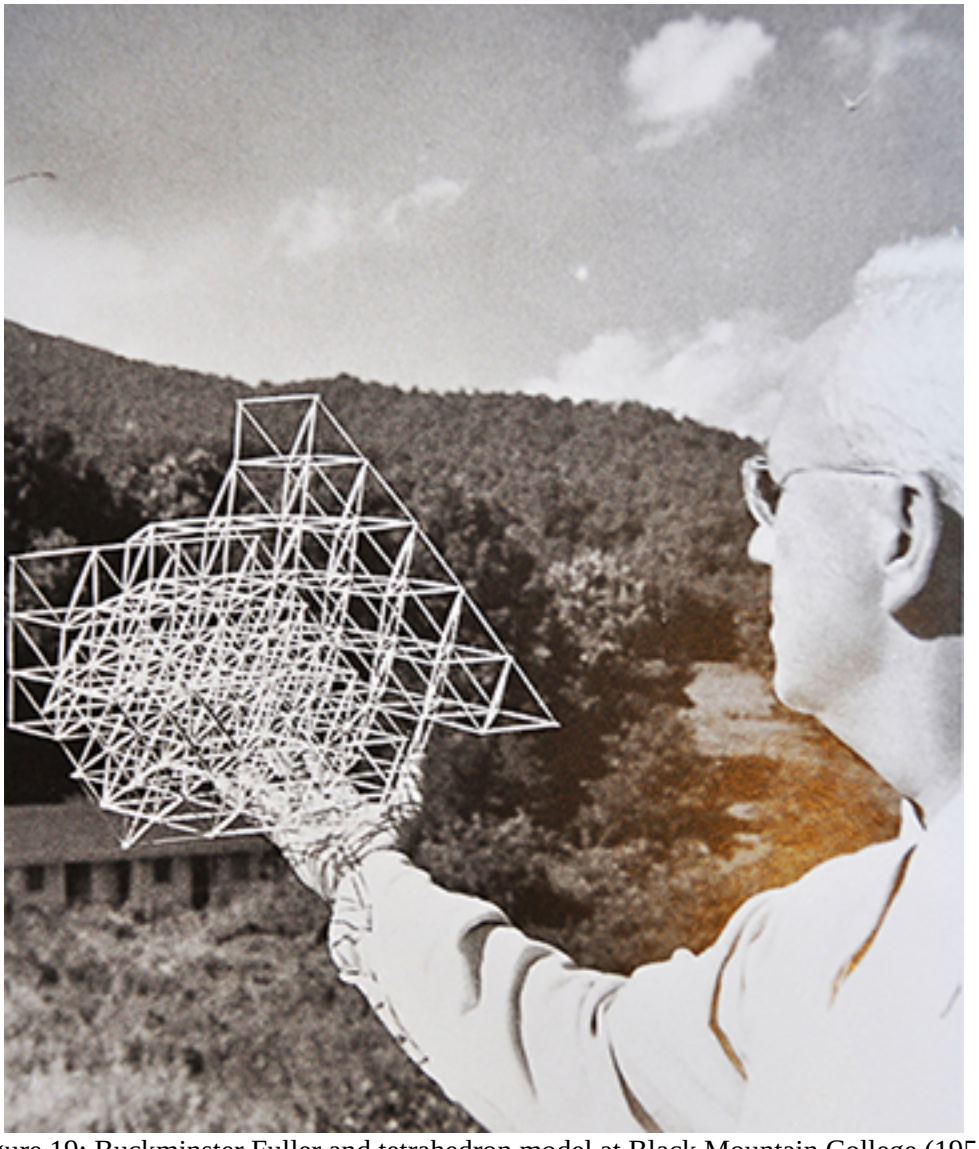

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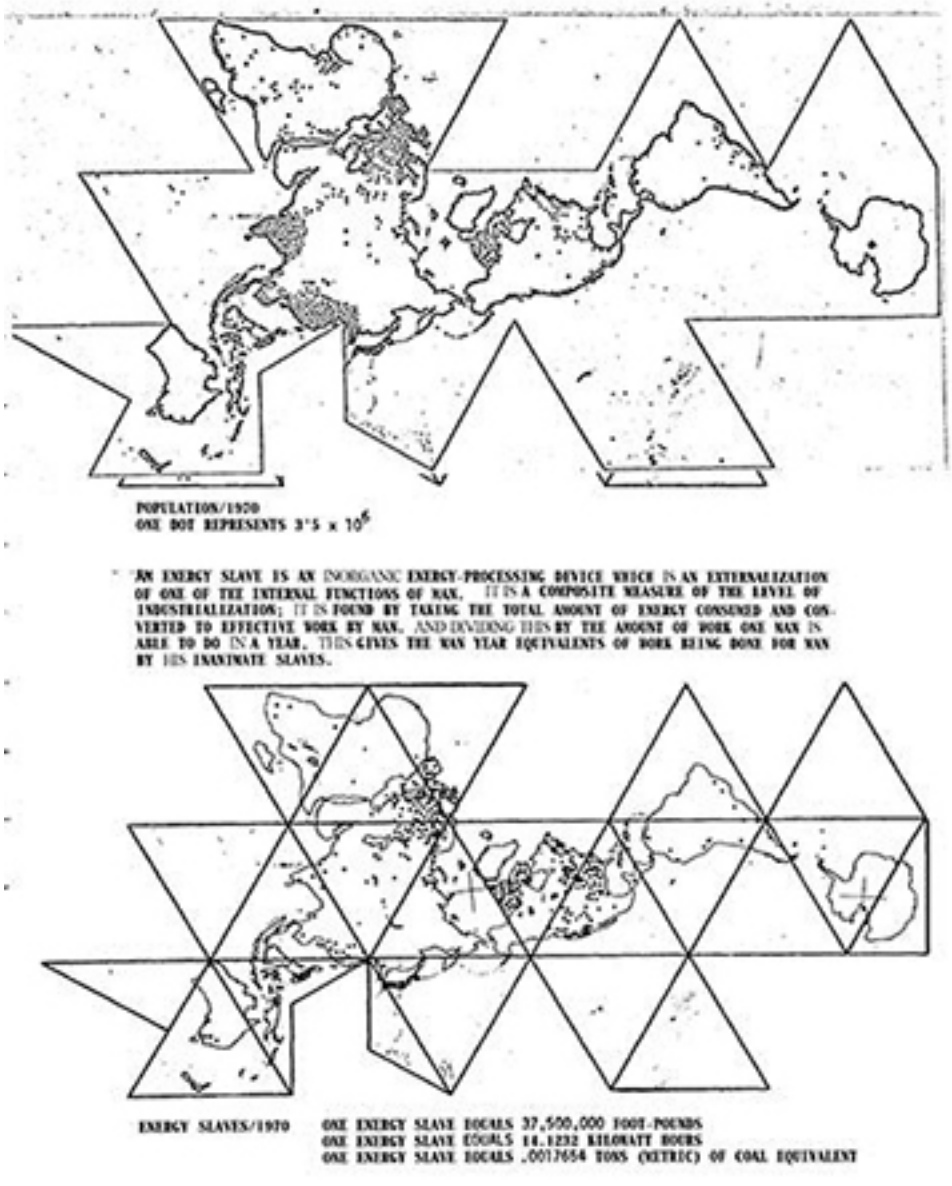

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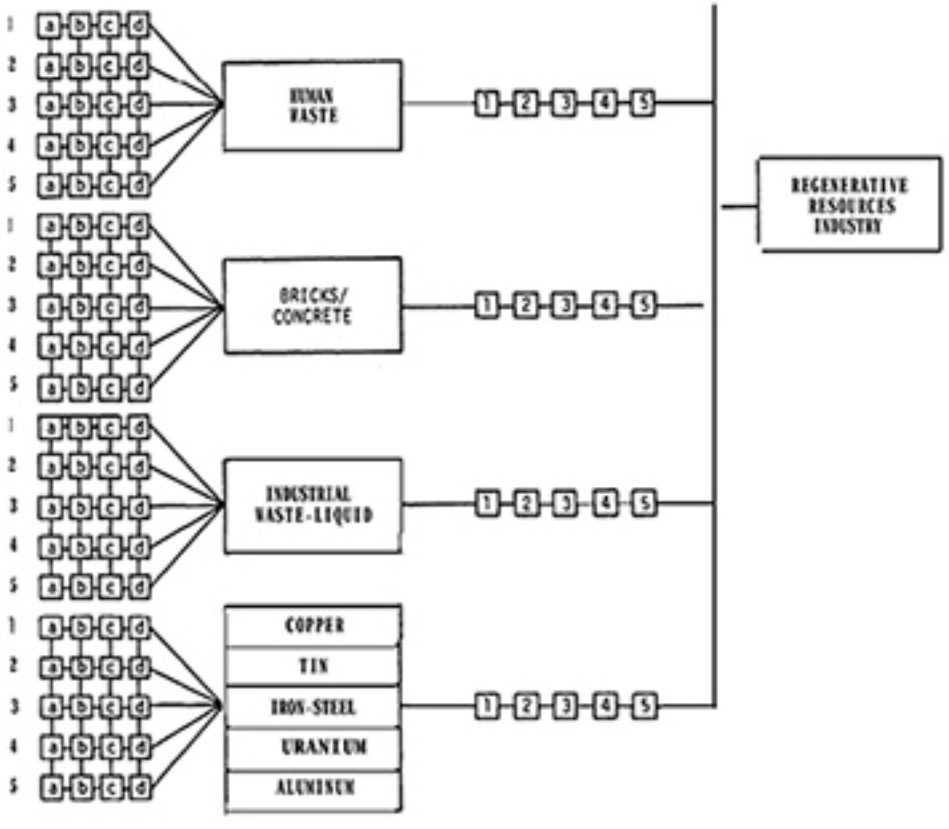

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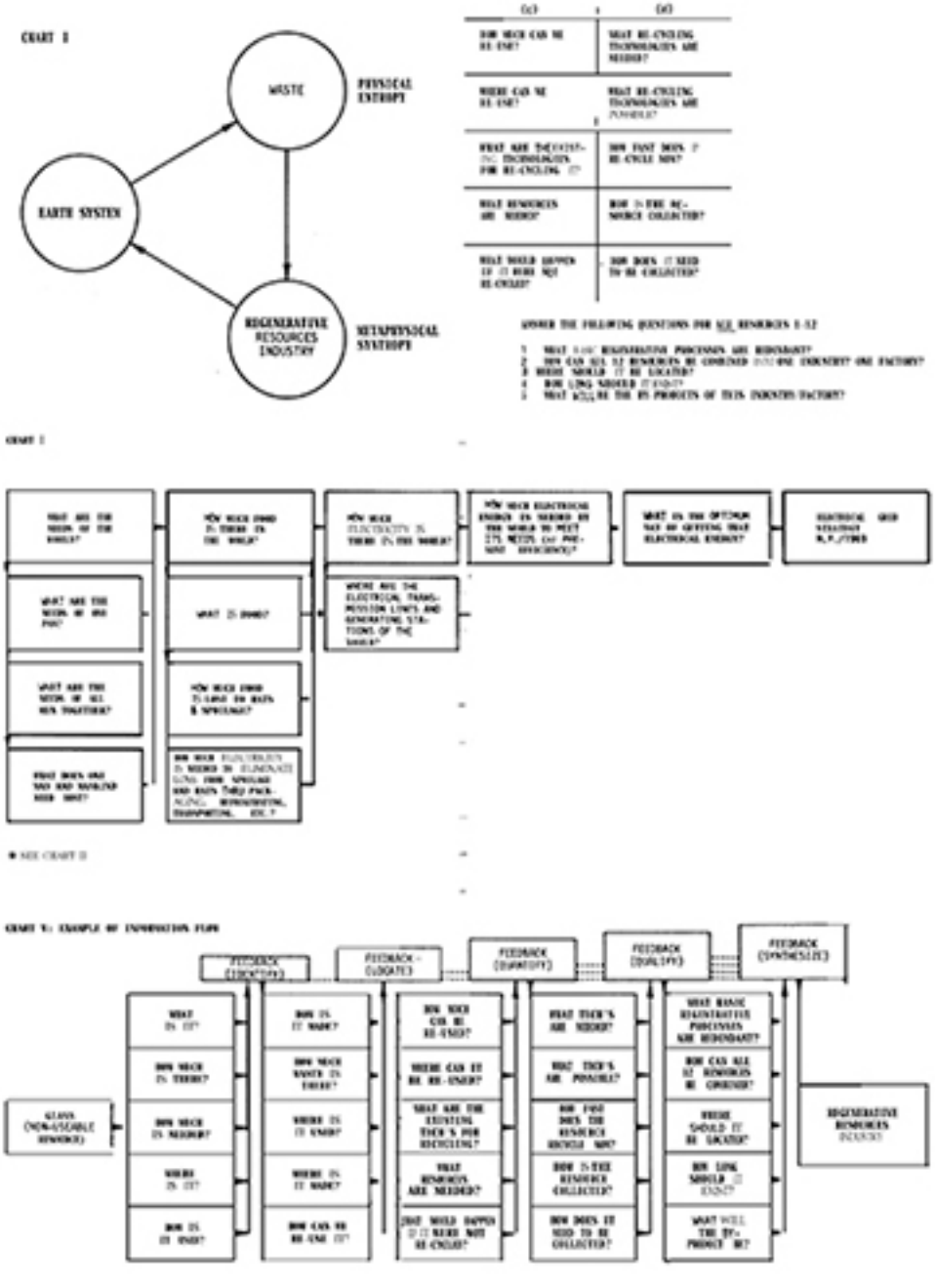

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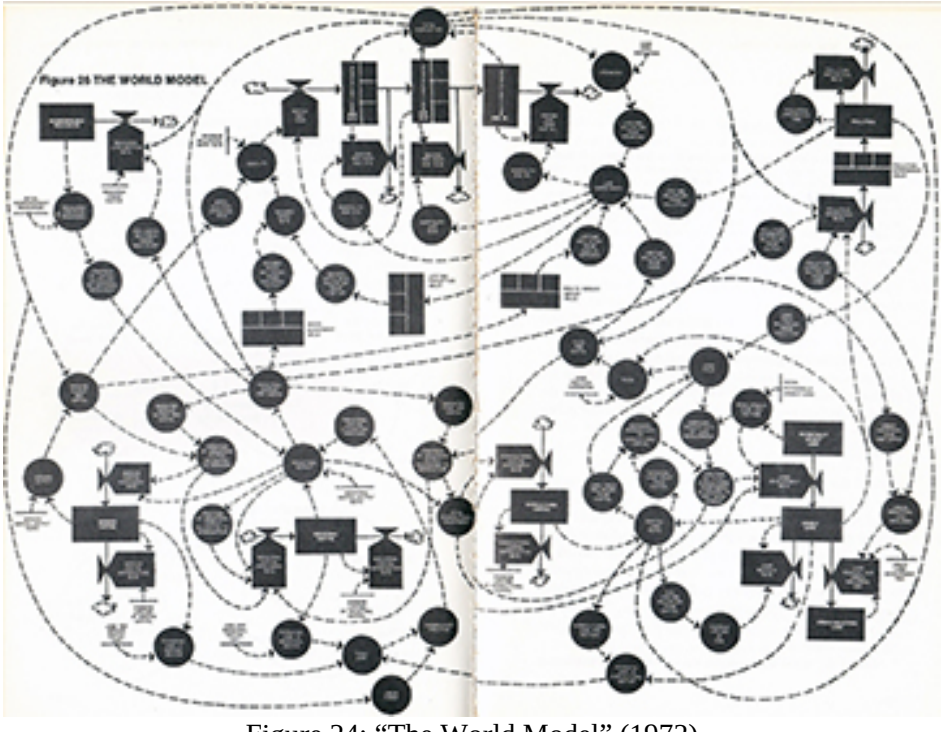

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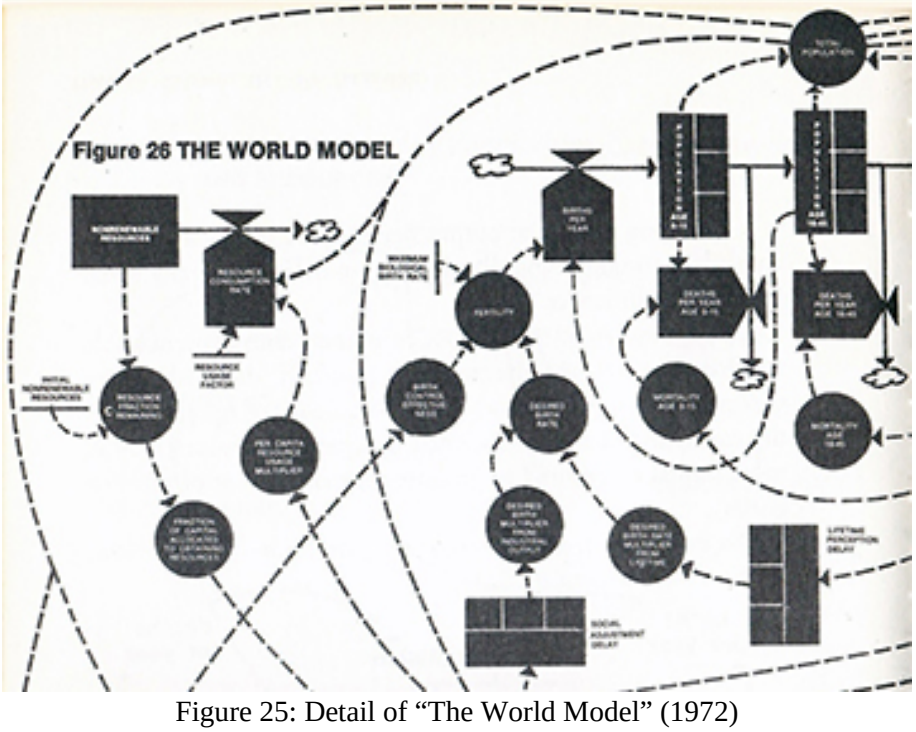

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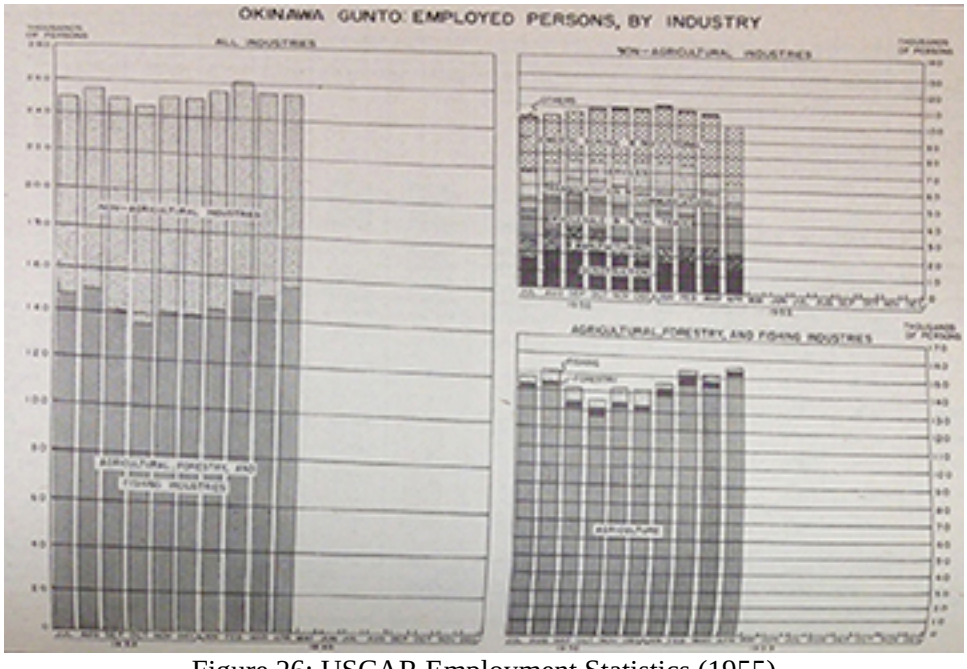

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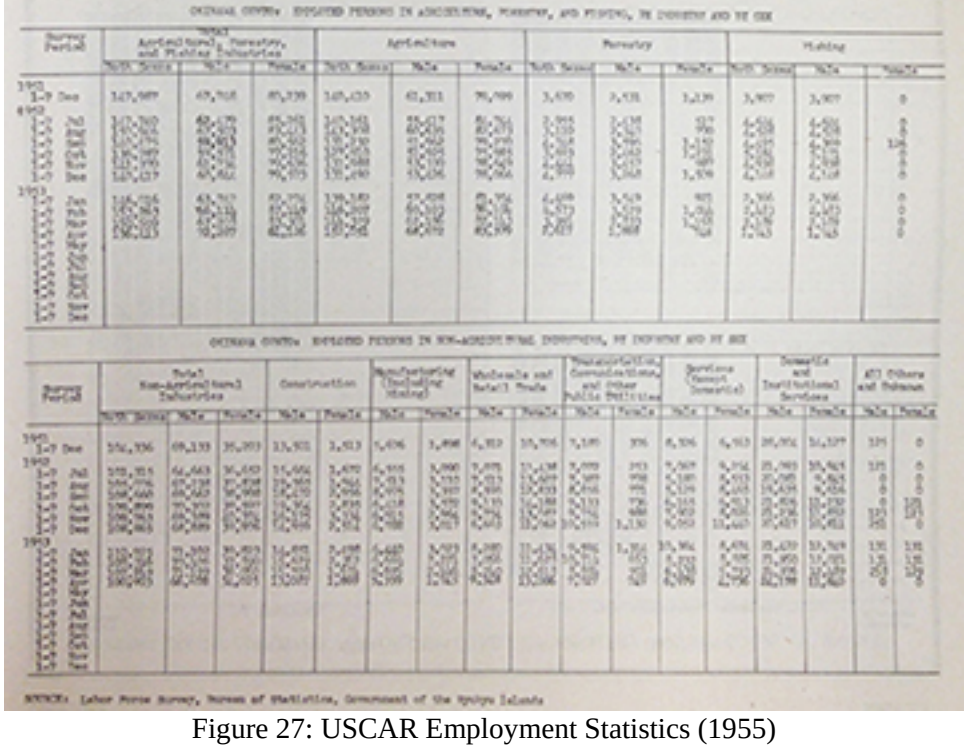

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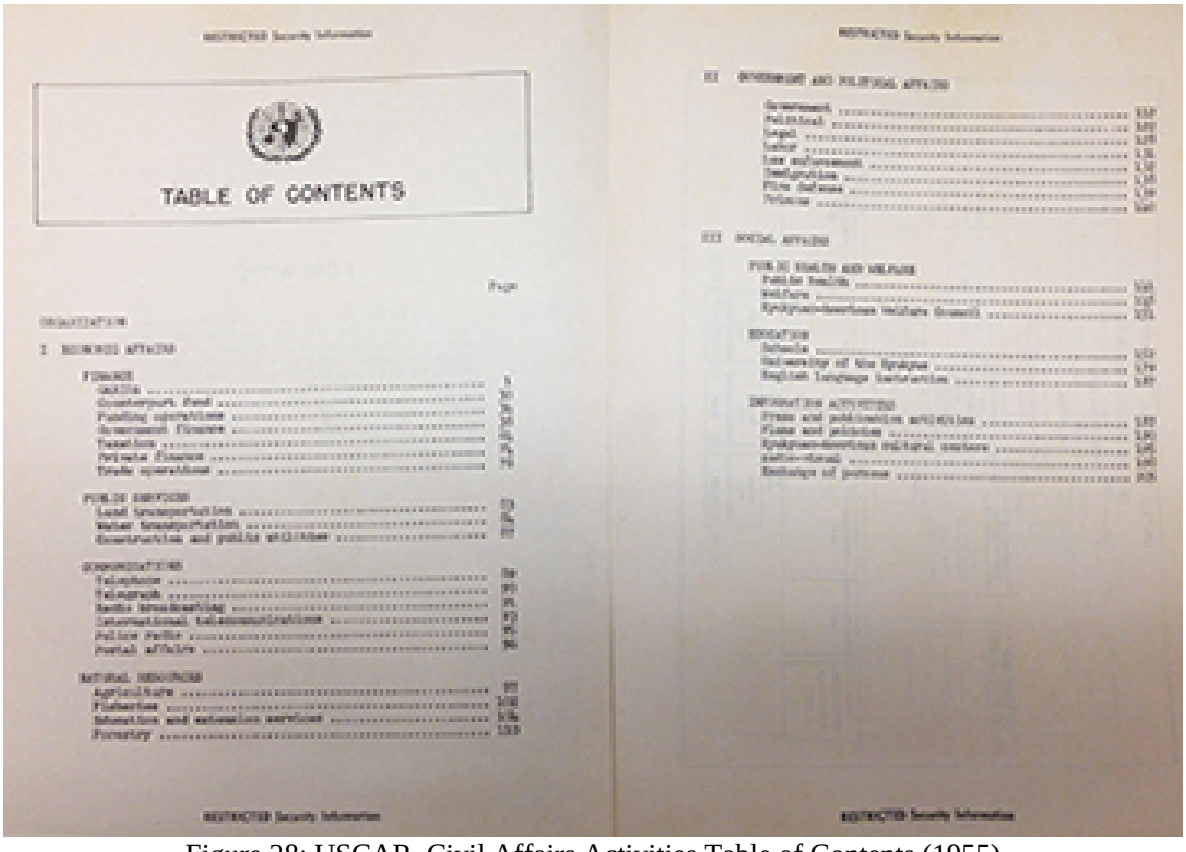

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FiT = Fully Integrated Thinking

		Key Performance Indicator	Environmental Stewardship	Social Capital	Economic Development
			Preserves, enhances and leverages the natural environment.	Enhances equity, health, education, dignity and interaction – and strengthens community bonds.	Catalyzes and strengthens economic growth in new and established communities.
1	EDOSTRUCTURE	?			
2	ATMOSPHERE	?			
3	WATER	?			
4	FOOD	?			
5	MATERIALS	?			
6	SHELTER	?			
7	ENERGY	?			
8	TRANSPORT	?			
9	COMMUNITY	?			
10	CULTURE	?			
11	HEALTH	?			
12	EDUCATION	?			
13	ETHICS	?			
14	COMMERCE	?			
15	VALUE	?			

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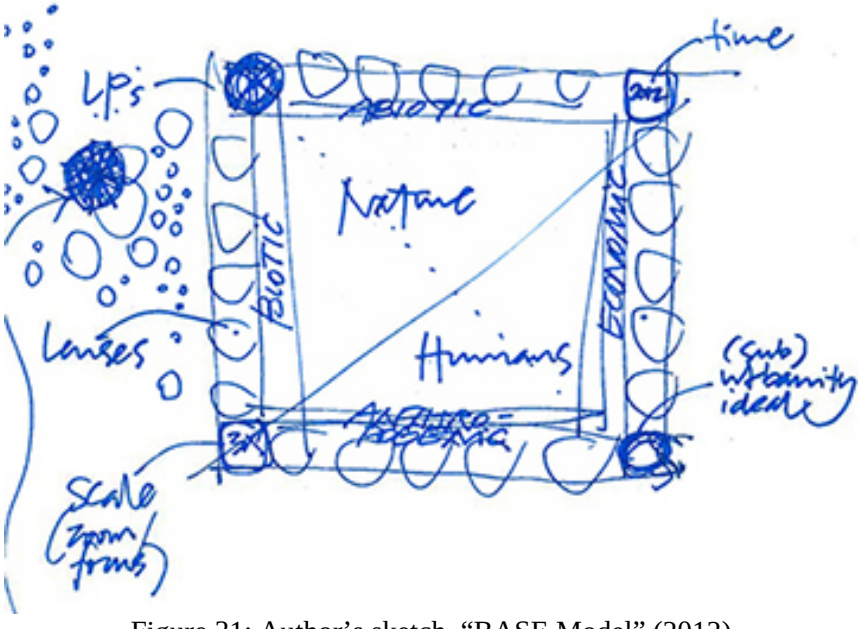

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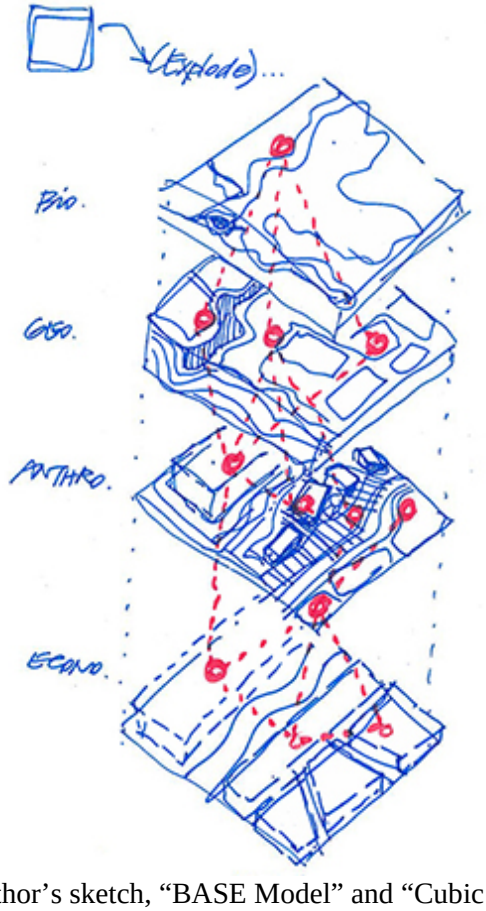

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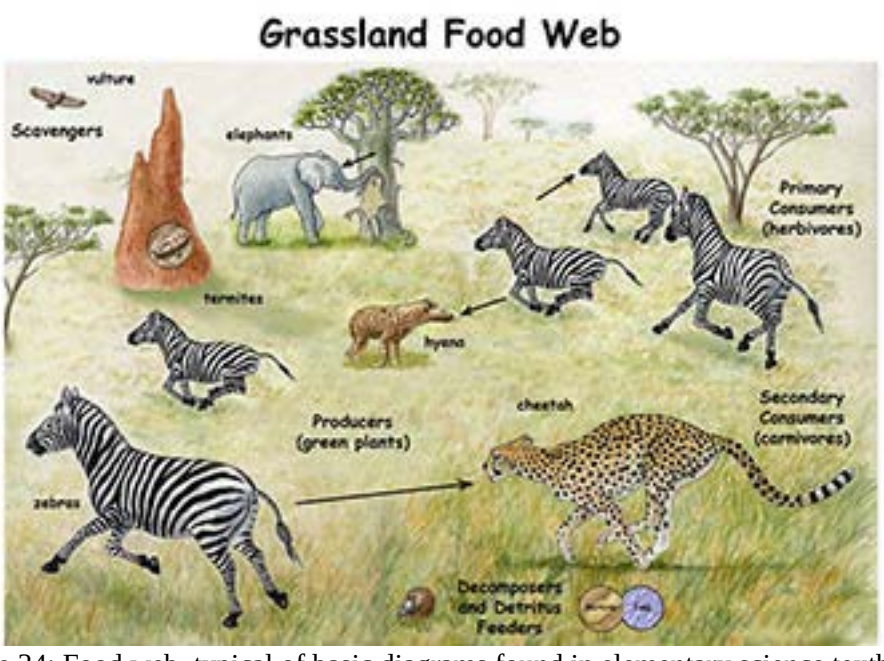

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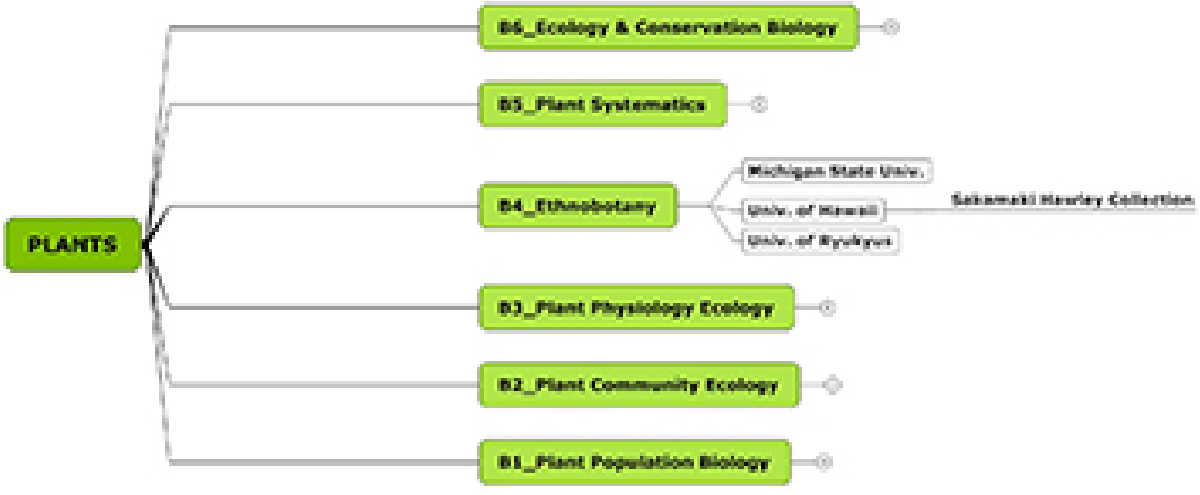

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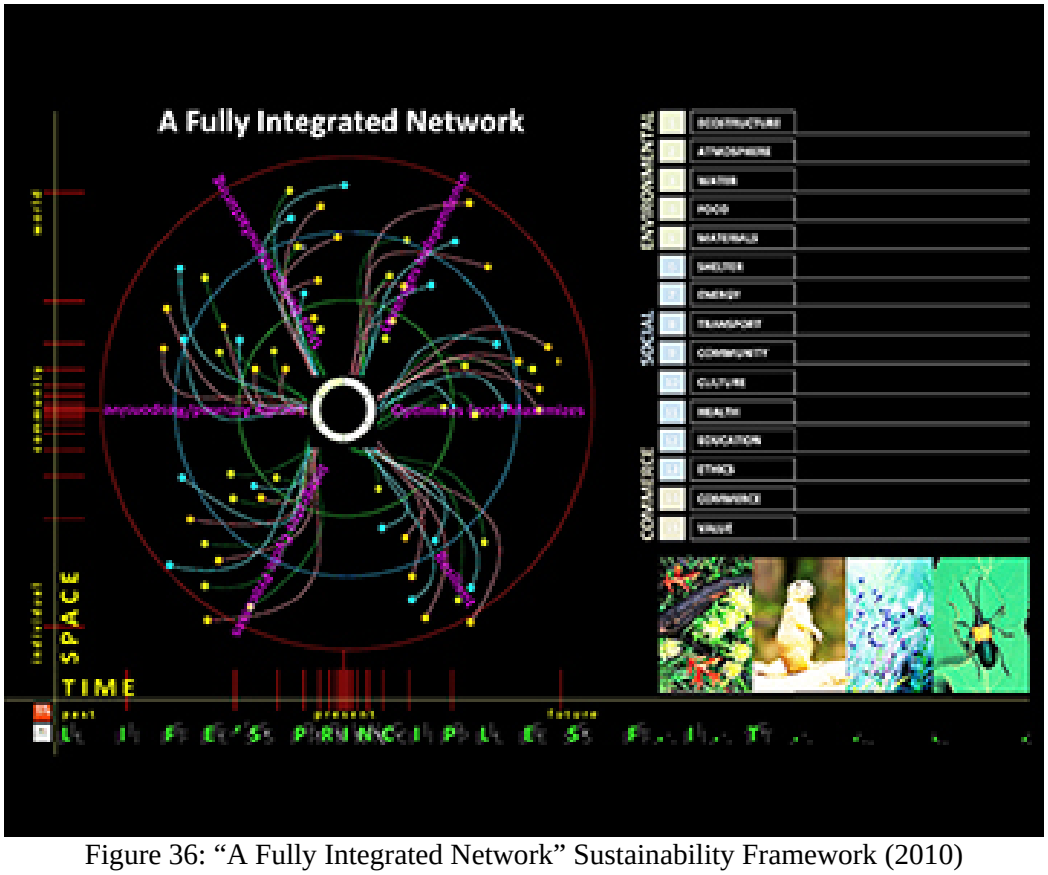

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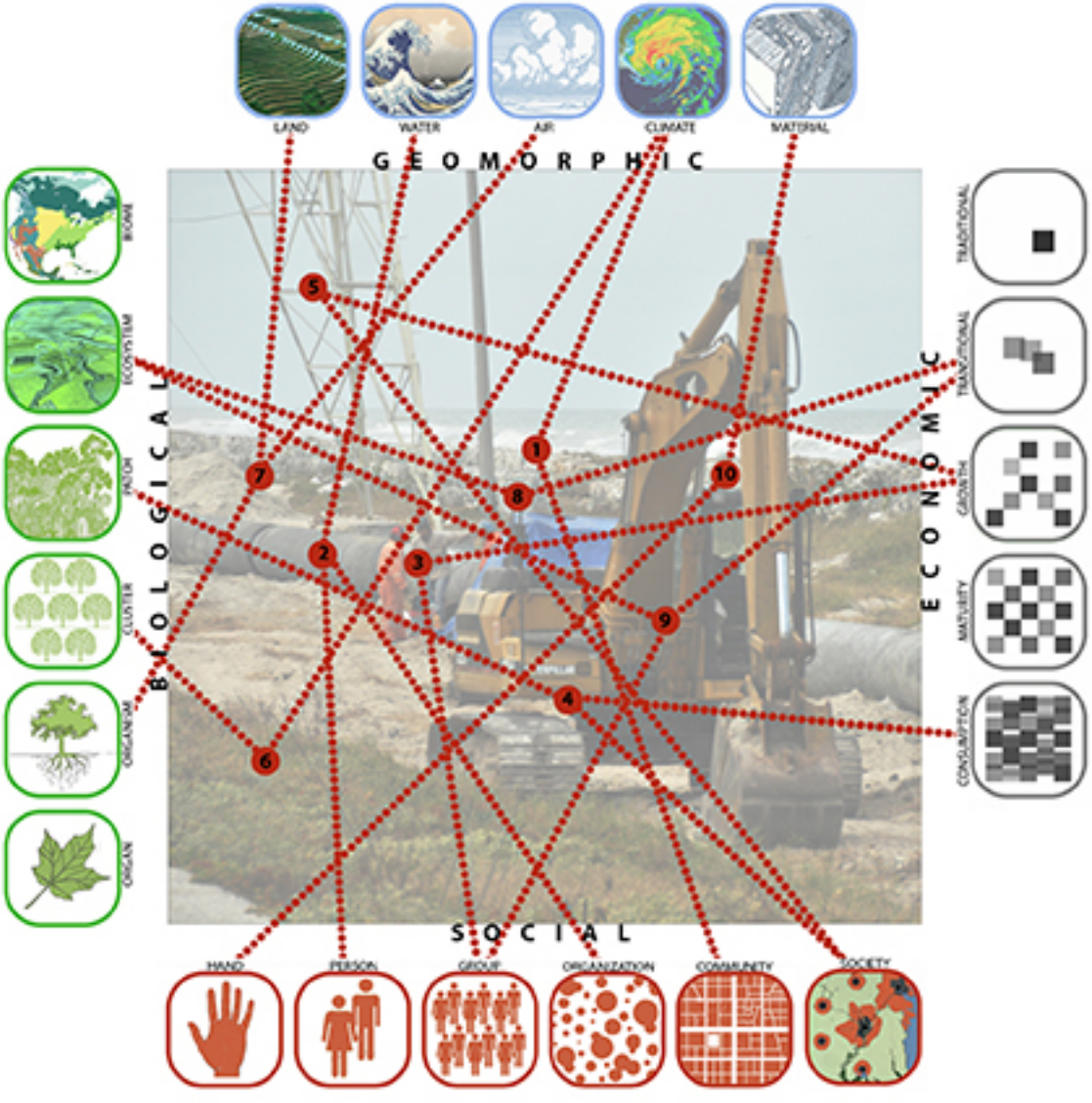

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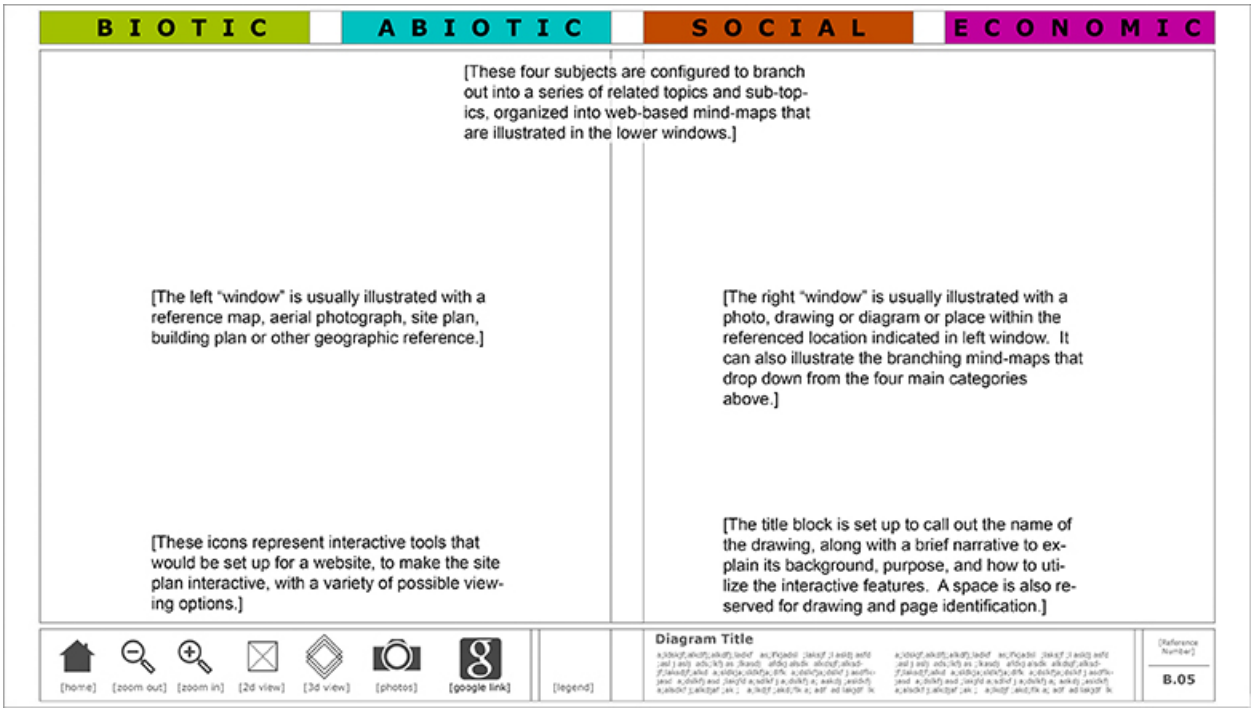

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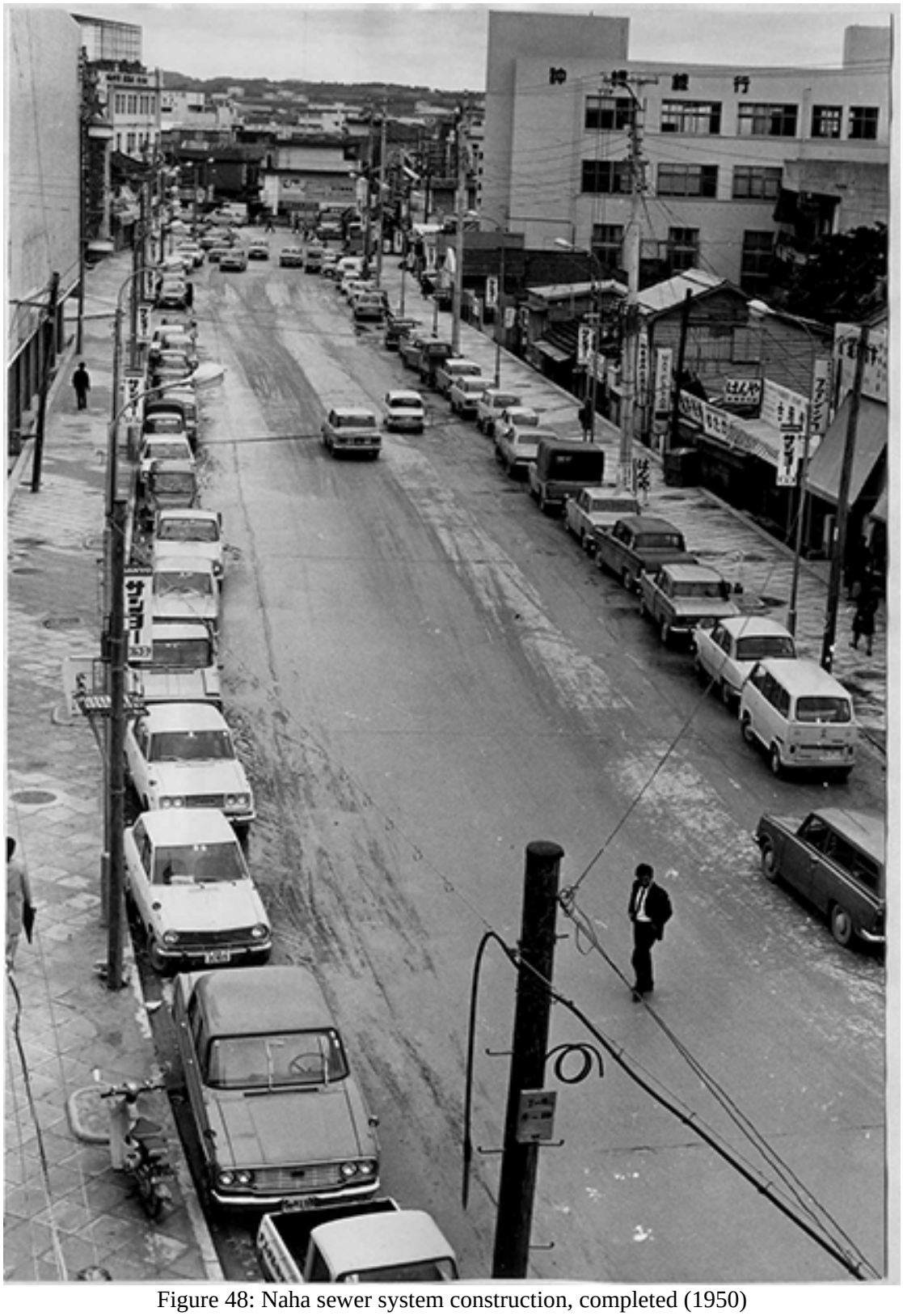

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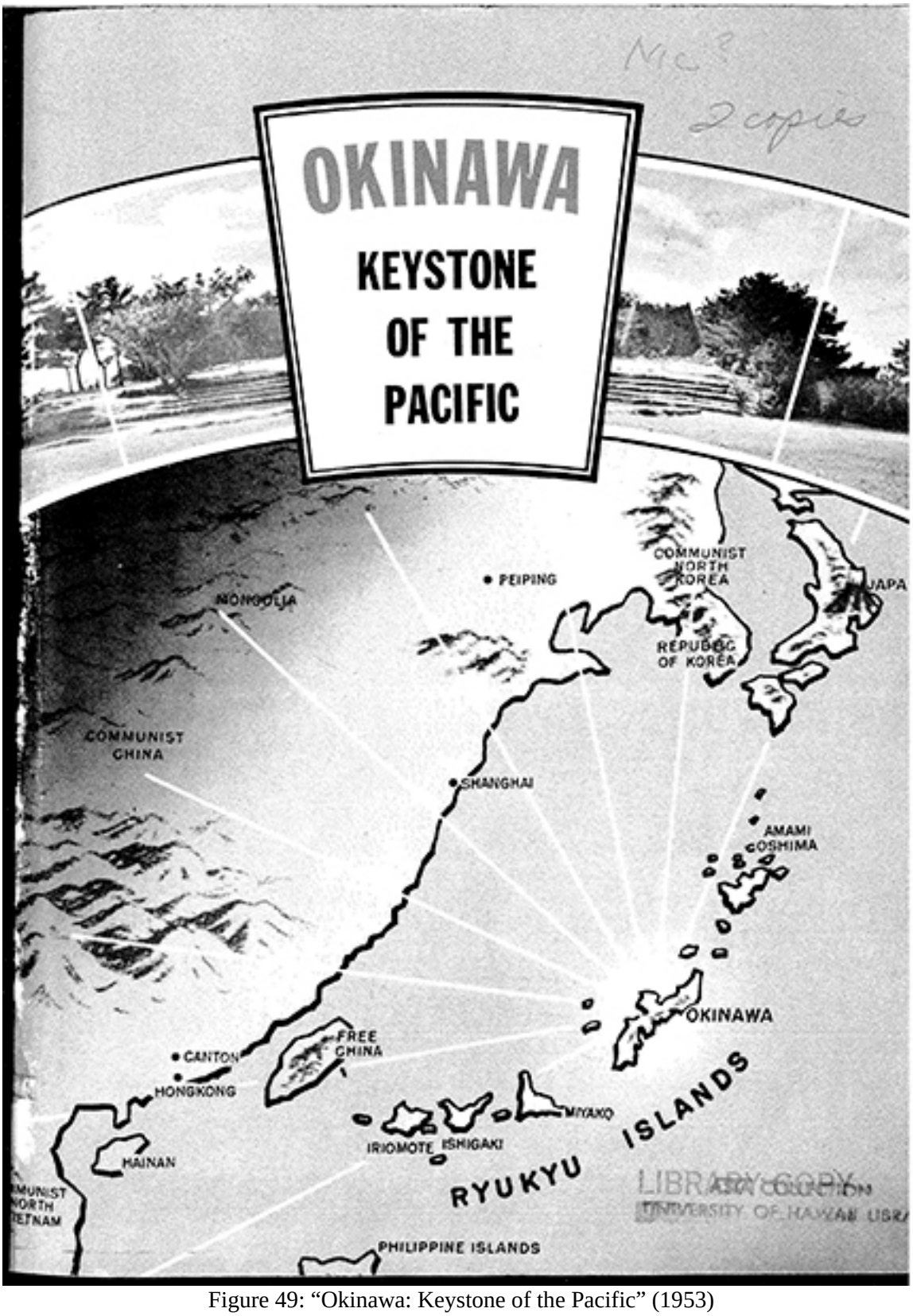

Figure 49: “Okinawa: Keystone of the Pacific” (1953)
(Source: USCAR publication)

OKINAWA–THE KEYSTONE OF THE PACIFIC

Because of its strategic location, its unique political status, and the versatile strength of the United States Armed Forces Commands stationed here, Okinawa has frequently been called the "Keystone of the Pacific".

An important element of the "forward strategy" of the Pacific Command is the presence of American military forces at several strategic locations along the long chain of islands facing Asia, extending more than 3,000 miles from the lower part of the Philippine islands in the south, through the Japanese home islands in the north.

In the center of this "bow-like" defense perimeter are Okinawa and the other Ryukyu Islands, which constitute the only area in this defensive zone under United States administrative control.

A glance at the map of the Far East clearly shows why the location of Okinawa is of military importance to the United States and the other Free World nations of the Western Pacific.

Figure 50: "Okinawa: Keystone of the Pacific" (1953)
(Source: USCAR publication)

POST WAR ACCOMPLISHMENTS: A NEW OKINAWA

Military government was established in the Ryukyu Islands in June 1945, following the surrender of the Japanese forces to the victorious Tenth United States Army. Military government operations ended in 1950 with the establishment of the U. S. Civil Administration of the Ryukyu Islands. Three important objectives for the Civil Administration were laid down by the Executive Order of 1957. These are:

1. Encourage the development of an effective and responsible Ryukyuan government, based on democratic principles and supported by a sound financial structure.

2. Improve the welfare and economic well-being and promote the cultural advancement of the Ryukyu Islands.

3. Preserve to persons in the Ryukyu Islands the basic liberties enjoyed by people in democratic countries including freedom of speech, assembly, petition, religion and the press; and security from unreasonable searches and seizures, and from deprivation of life, liberty or property without due process of law.

What you see today has been accomplished in less than 15 years, due in large part to the resilience and hard work of the gallant Okinawan people.

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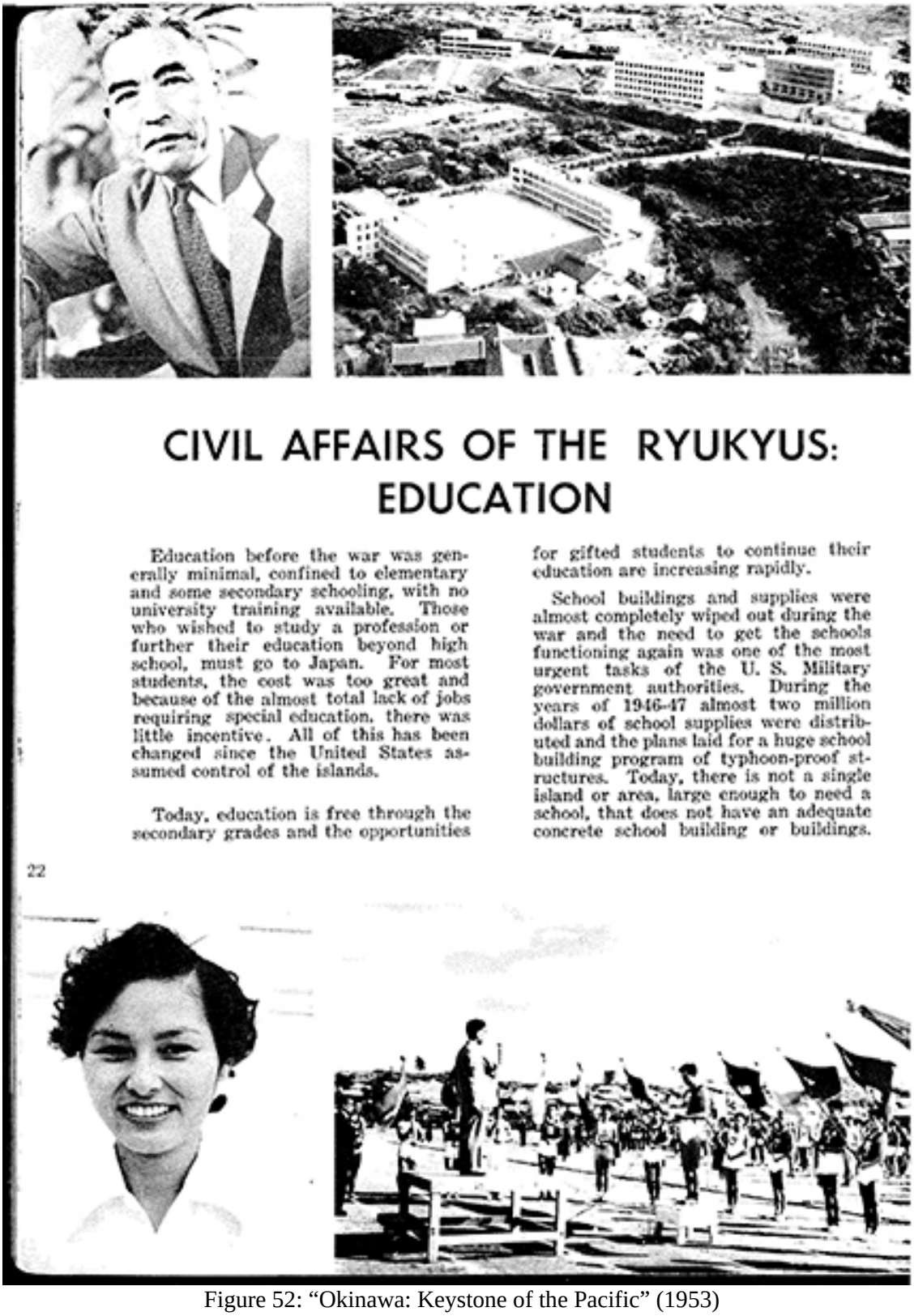
Figure 51: "Okinawa: Keystone of the Pacific" (1953)
(Source: USCAR publication)



CIVIL AFFAIRS OF THE RYUKYUS: EDUCATION

Education before the war was generally minimal, confined to elementary and some secondary schooling, with no university training available. Those who wished to study a profession or further their education beyond high school, must go to Japan. For most students, the cost was too great and because of the almost total lack of jobs requiring special education, there was little incentive. All of this has been changed since the United States assumed control of the islands.

Today, education is free through the secondary grades and the opportunities for gifted students to continue their education are increasing rapidly.

School buildings and supplies were almost completely wiped out during the war and the need to get the schools functioning again was one of the most urgent tasks of the U. S. Military government authorities. During the years of 1946-47 almost two million dollars of school supplies were distributed and the plans laid for a huge school building program of typhoon-proof structures. Today, there is not a single island or area, large enough to need a school, that does not have an adequate concrete school building or buildings.

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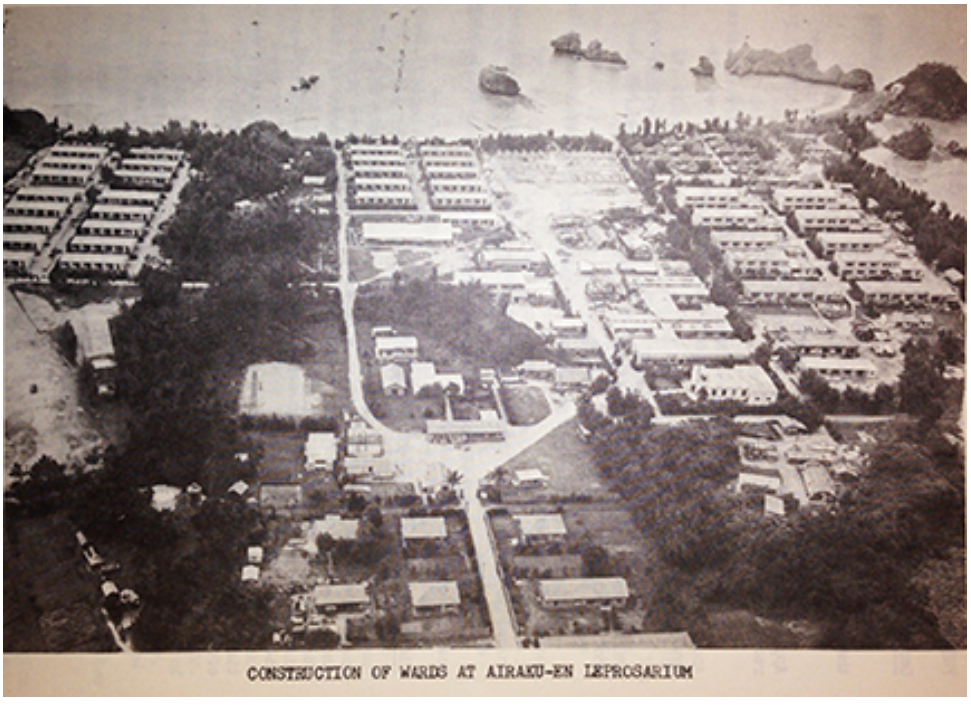

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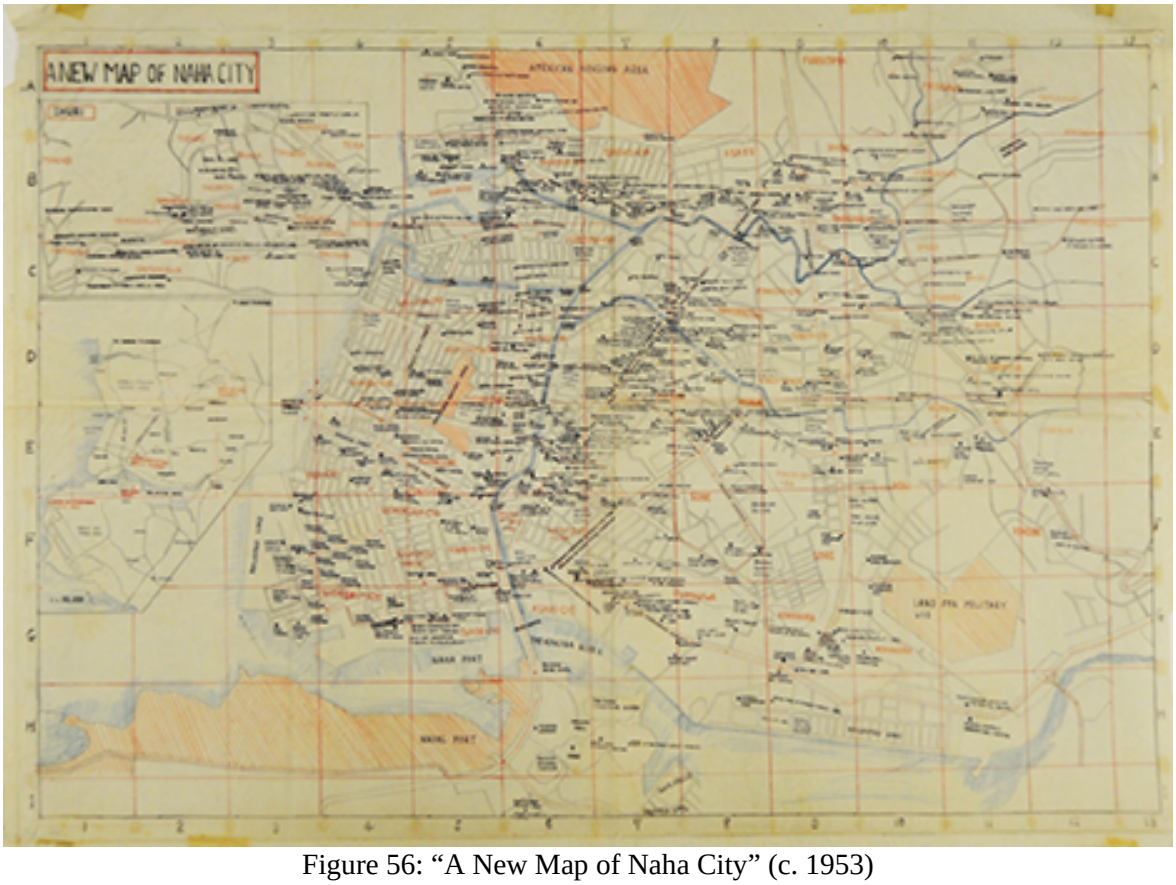

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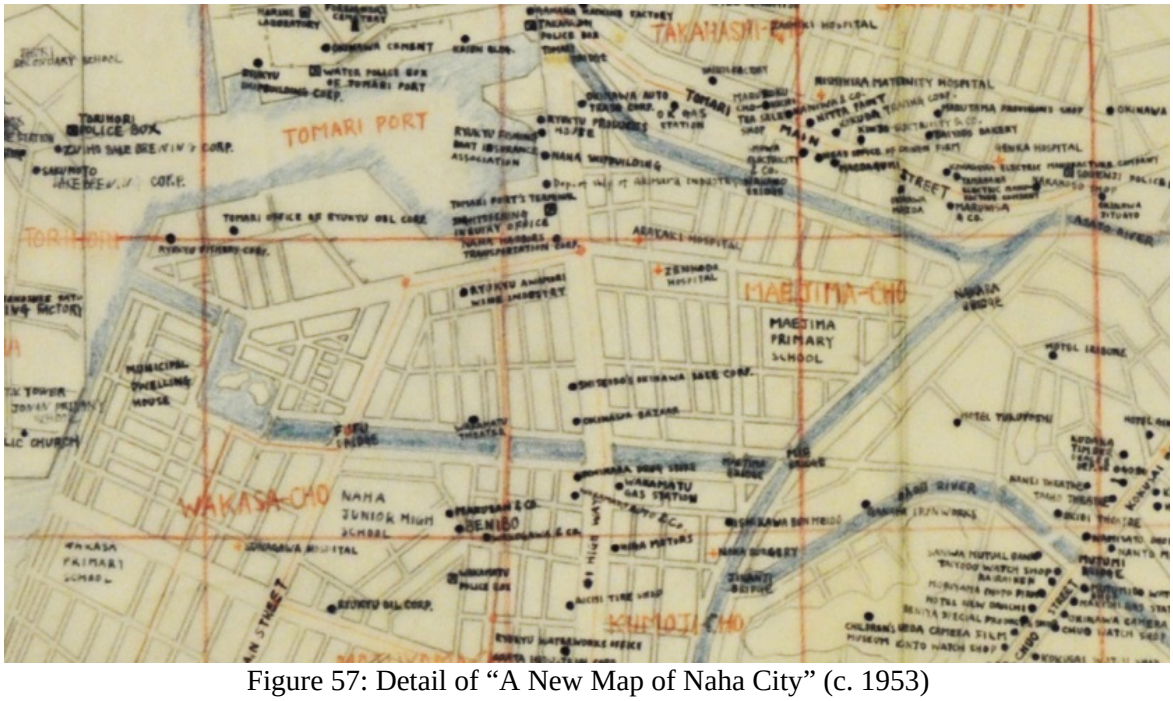
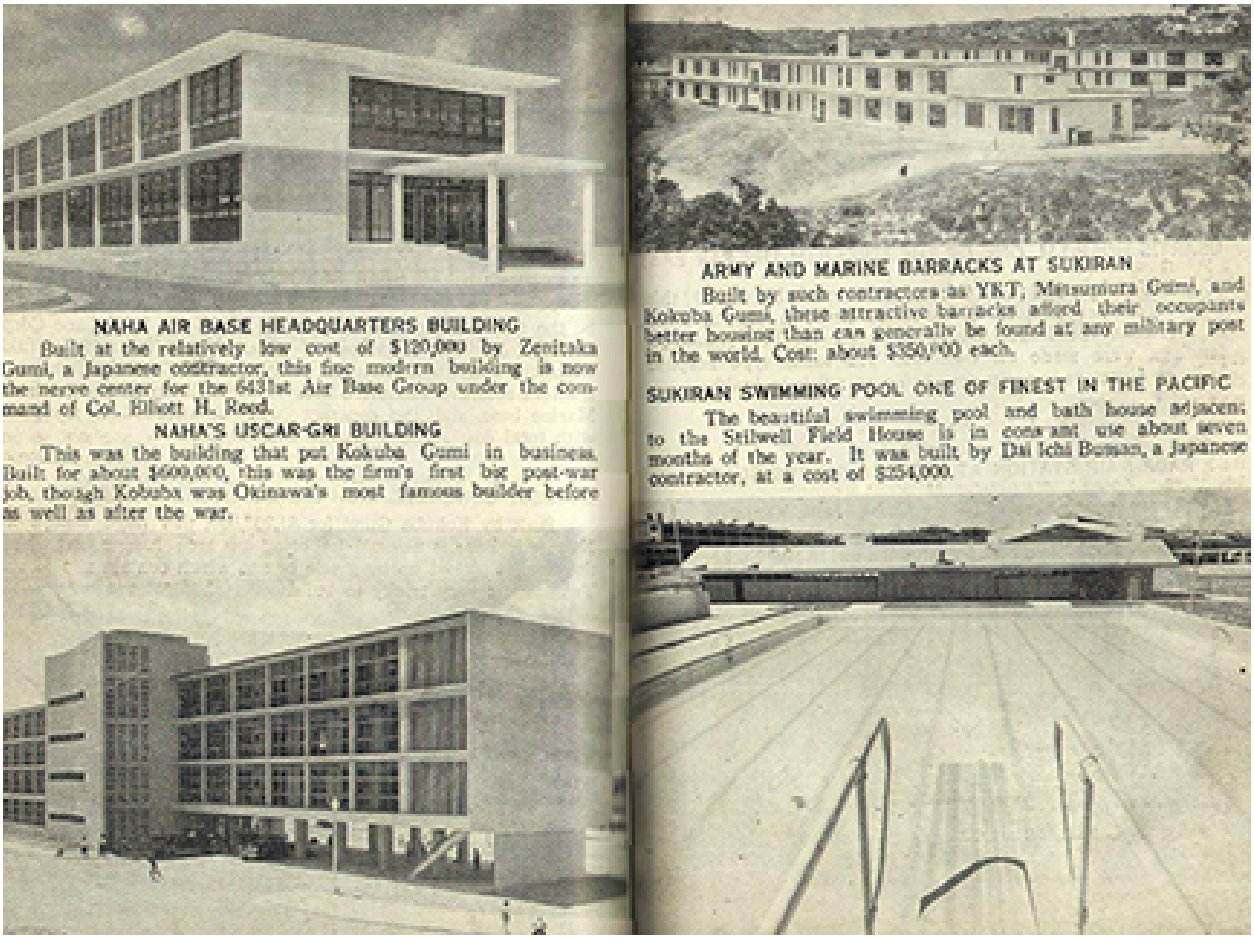


Figure 57: Detail of “A New Map of Naha City” (c. 1953)
(Source: Michigan State University, University of the Ryukyus Project Records)



NAHA AIR BASE HEADQUARTERS BUILDING

Built at the relatively low cost of $120,000 by Zenitaka Gumi, a Japanese contractor, this fine modern building is now the nerve center for the 6431st Air Base Group under the command of Col. Elliott H. Reed.

NAHA'S USCAR-GRI BUILDING

This was the building that put Kokuba Gumi in business. Built for about $600,000, this was the firm's first big post-war job, though Kokuba was Okinawa's most famous builder before as well as after the war.

ARMY AND MARINE BARRACKS AT SUKIRAN

Built by such contractors as YKT, Matsumura Gumi, and Kokuba Gumi, these attractive barracks afford their occupants better housing than can generally be found at any military post in the world. Cost: about $350,000 each.

SUKIRAN SWIMMING POOL ONE OF FINEST IN THE PACIFIC

The beautiful swimming pool and bath house adjacent to the Stilwell Field House is in constant use about seven months of the year. It was built by Dai Ichi Bunan, a Japanese contractor, at a cost of $254,000.

Figure 58: USCAR-era civic architecture (c. 1955)
(Source: USCAR, *Civil Affairs*)

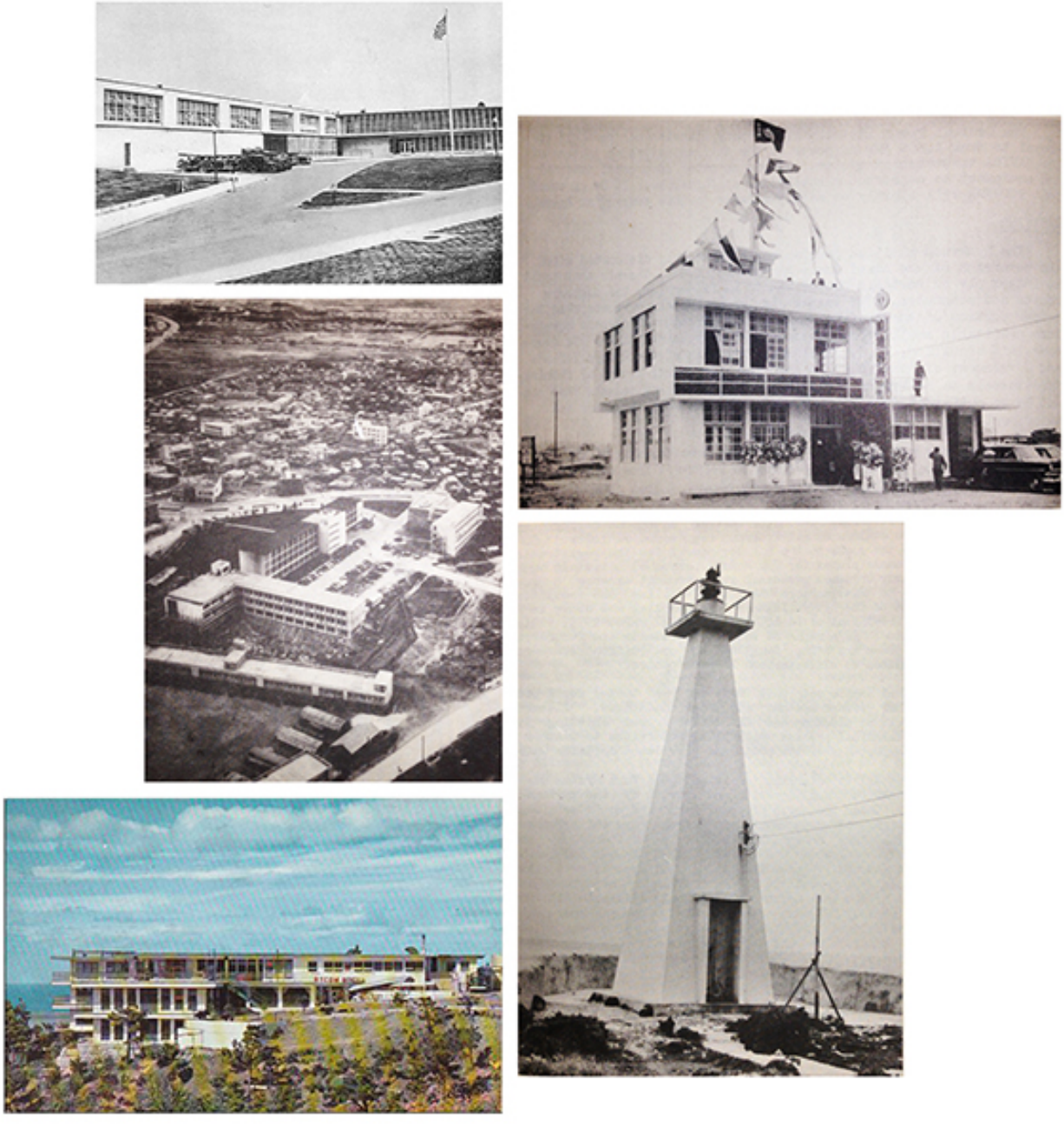


Figure 59: USCAR-era civic architecture (c. 1955)
(Source: USCAR, Civil Affairs)

Figure 60: Postage stamp of Ryudai and Shuri-jo (1951)
(Source: Baxley Stamps)

Figure 61: GRI Executive Building designed by Nakaza Hisao (1953)
(Source: USCAR, *Civil Affairs*)

Figure 62: Okinawan *kamekōbaka* tomb, and U.S. military bunker (1945)
(Sources: Remembering Okinawa website, USCAR documentary film)

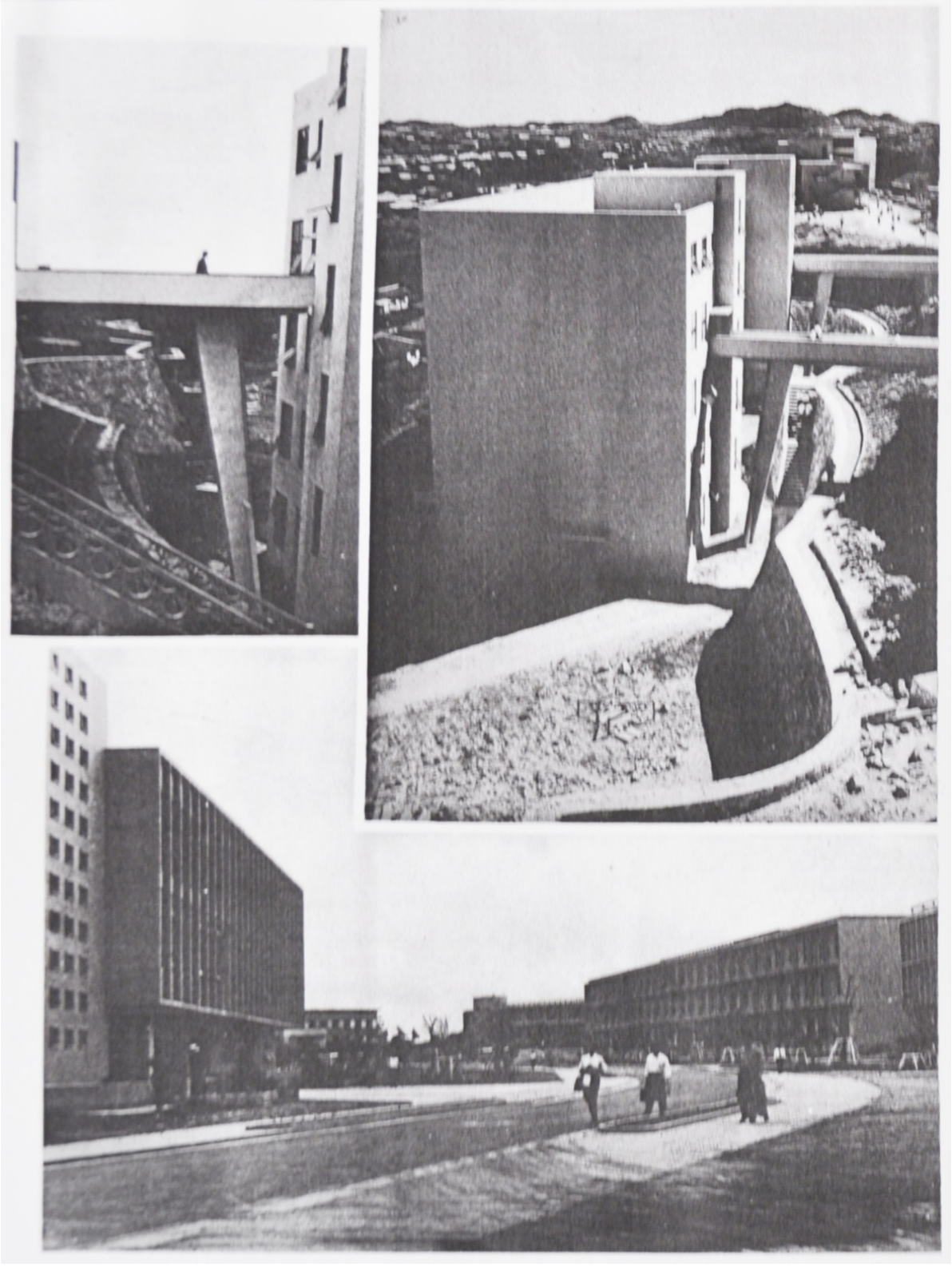


Figure 63: Views of Ryudai Campus (1963)
(Source: USCAR, *Civil Affairs*)

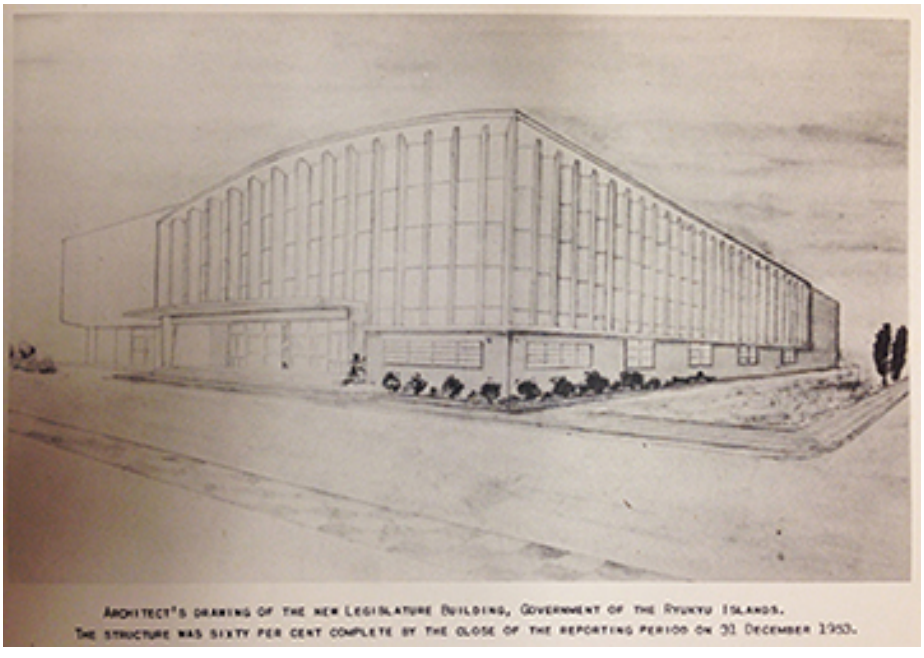


Figure 64: Architect's rendering of new GRI legislature building (1953)
(Source: USCAR, *Civil Affairs*)

Figure 65: Postage stamp of Ryudai and Shuri-jo (1966)
(Source: Baxley Stamps)

Figure 66: Okinawan village, U.S. Army reconnaissance photo (1944)
(Source: USCAR, *Civil Affairs*)

Figure 67: Lithograph by William Heine, “Com. Perry’s Visit to Shui” (1853)
(Source: Baxley Stamps)

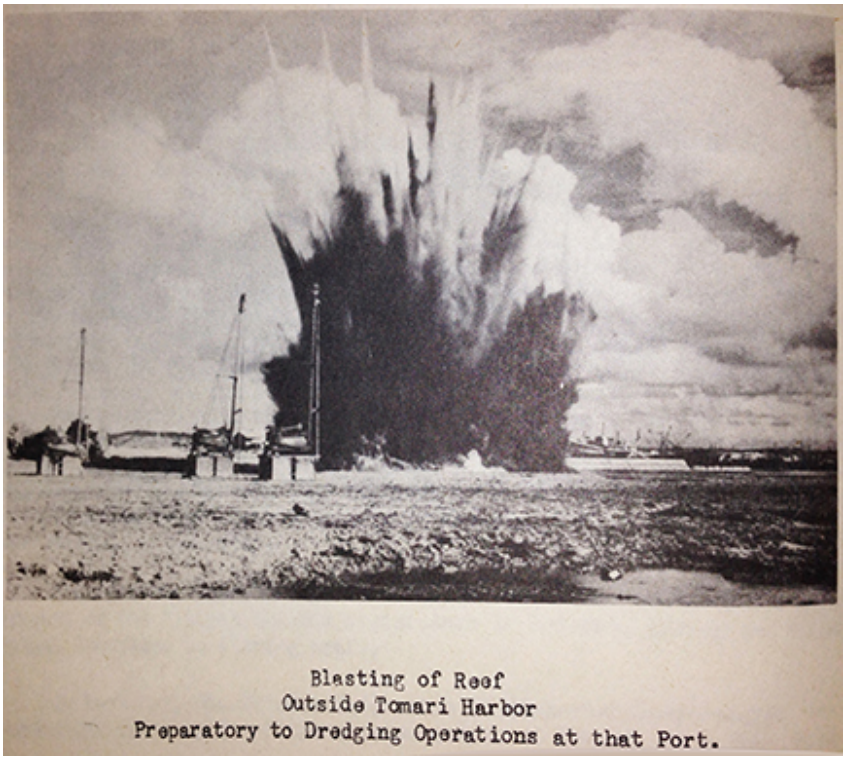


Figure 68: USCAR, “Blasting of Reef” (c. 1954)
(Source: USCAR, *Civil Affairs*)

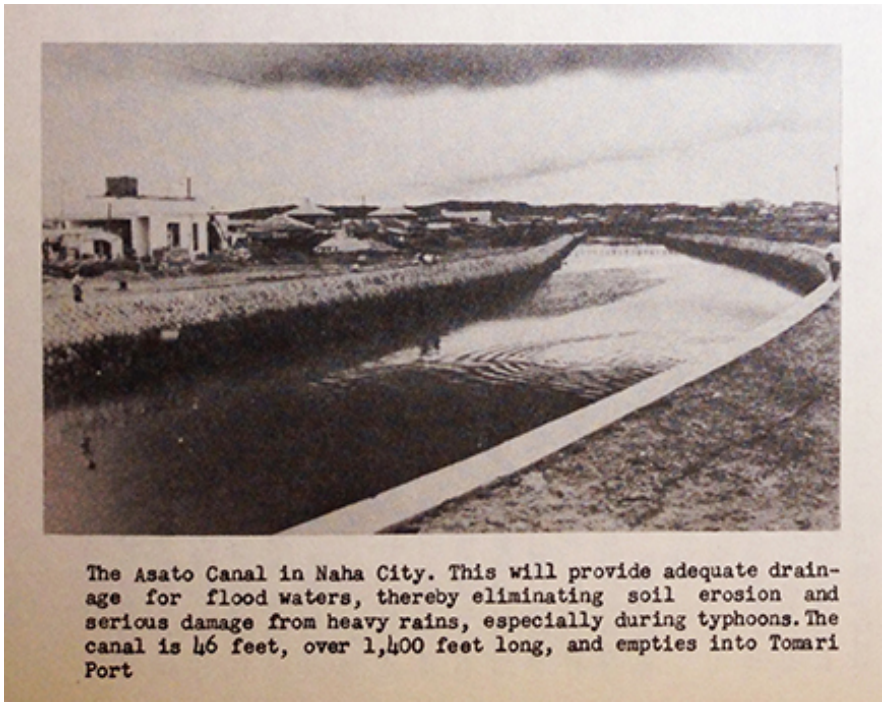


Figure 69: USCAR, Asato Canal, Naha (c. 1954)
(Source: USCAR, *Civil Affairs*)

Figure 70: USCAR, Hedro Irrigation Project Canal (c. 1954)
(Source: USCAR, *Civil Affairs*)

Figure 71: Typhoon damage, Naha (c. 1953)
(Source: USCAR, *Civil Affairs*)

Figure 72: Before and after images of U.S.-sponsored school construction program (c. 1955) (Source: USCAR, *Civil Affairs*)

Figure 73: USCAR, Water & sewer infrastructure construction, Naha (c. 1951)
(Source: USCAR, *Civil Affairs*)

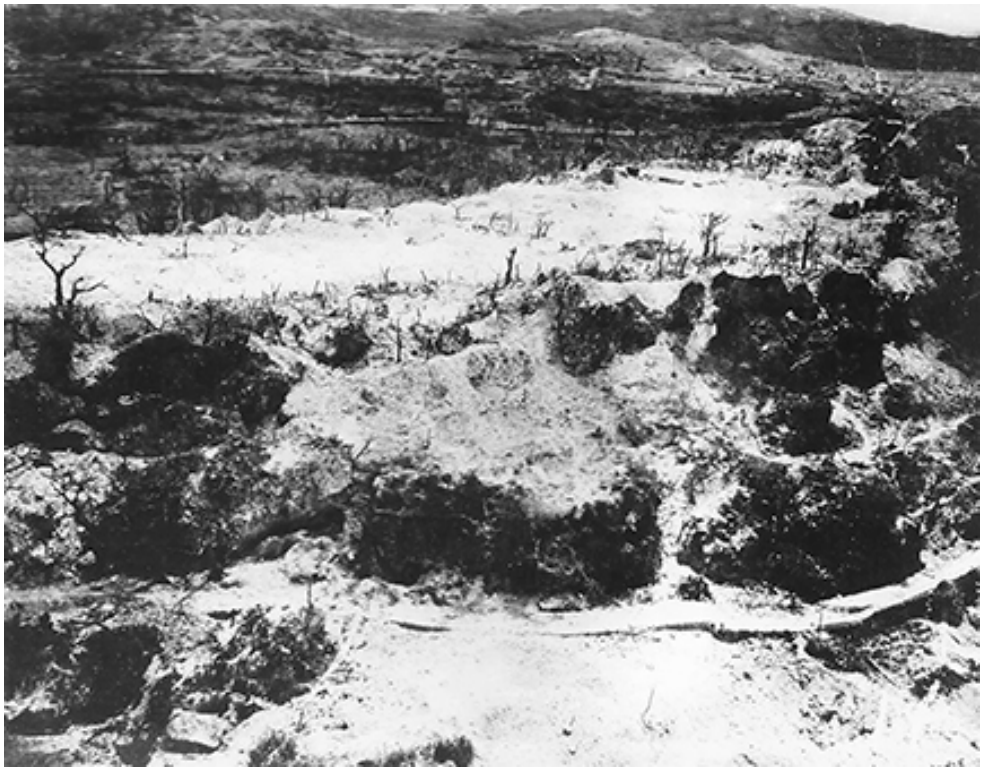


Figure 74: Shuri-jo site after Allied bombing (1945)
(Source: USCAR, *Civil Affairs*)

Figure 75: Shuri-jo site after Allied bombing (1945)
(Source: USCAR, *Civil Affairs*)

Figure 76: Shuri-jo site after Allied bombing (1945)
(Source: USCAR, *Civil Affairs*)

Figure 77: *Aikatazumi* walls and steps at Shuri-jo after bombing (1945)
(Source: Urthman's Genealogy Blog, "Shuri Castle, Okinawa in 1945 and the Discovery of a Roll of Film Left Behind")

Figure 78: U.S. military "off-limits" signs to Okinawa civilians (c. 1953)
(Source: Blackie the Photographer)

Figure 79: Ryukyuan-American Cultural Center kiosk (c. 1957)
(Source: USCAR, *Civil Affairs*)

Figure 80: Local girls with bell of Shuri-jo (1948)
(Source: U.S. Army Signal Corps, George Lane Personal Archives, "Battle for Okinawa and post-War period")

琉球大学全景　ー首里キャンパスー　1951年（昭和26）

Figure 81: Ryudai campus site at Shuri-jo (1951 and 1953)
(Source: USCAR photo, Moshin Morita, *University of the Ryukyus 50th Anniversary Book*)

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC

Left image:
Google Map charting distance between MSU (East Lansing, Michigan) and Ryudai (Naha, Okinawa): 7,247 miles; 21 hours by air.

Left image:
Map of Naha and Shuri, 1956

[Image source:
Donn Cuson,
"Remembering Okinawa" website]

Image above:
MSU Professor Ellen Densmore & Colleagues

[Image source:
Michigan State University. University of the Ryukyus Project Records. University Archives & Historical Collections]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Preparing to depart for "MSU Mission" to Ryudai (1951)

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p 273
FIGURE 82

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC

Left image:
View of Ryudai campus looking over Ryutan Pond (c. 1955);

[Image Source:
Michigan State University
University of the Ryukyus Project Records.
University Archives & Historical Collections]

Left image:
President John A. Hannah,
at Michigan State University (c. 1955);

[Image Source:
Michigan State University
University of the Ryukyus Project Records.
University Archives & Historical Collections]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ryudai campus and MSU campus, with MSU President Hannah

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p 274
FIGURE 83

B I O T I C | **A B I O T I C** | **S O C I A L** | **E C O N O M I C**

Right Image:
Aerial View of Ryudai, looking northeast (1951)

[Image Source:
U.S. Civil Administration of the Ryukyu Islands (USCAR)]

Left Image:
"A New Map of Naha City" (c. 1953)

[Image Source:
Michigan State University. University of the Ryukyus Project Records]

Right Image:
View of Ryudai Quadrangle, looking east (1951)

[Image Source:
U.S. Civil Administration of the Ryukyu Islands (USCAR)]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

"A New Map of Naha" with birds-eye view of Ryudai (1951)

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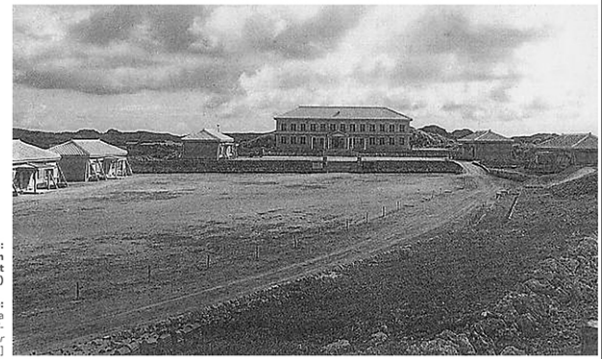
p 275
FIGURE 84

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Right Image:
Ryudai Administration Building, looking east (c. 1951)

[Image Source:
Wikimedia Commons, Naha Shuppan Co. *Photograph collection: History of Postwar Okinawa*]

Left Image:
"A New Map of Naha City" (c. 1953)

[Image Source:
Michigan State University. University of the Ryukyus Project Records]

Right Image:
Ryudai Administration Building, looking east (c. 1951)

[Image Source:
Tourism Postcard, Donn Cuson, "Remembering Okinawa" website]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

"A New Map of Naha" with Ryudai administration building (1951)

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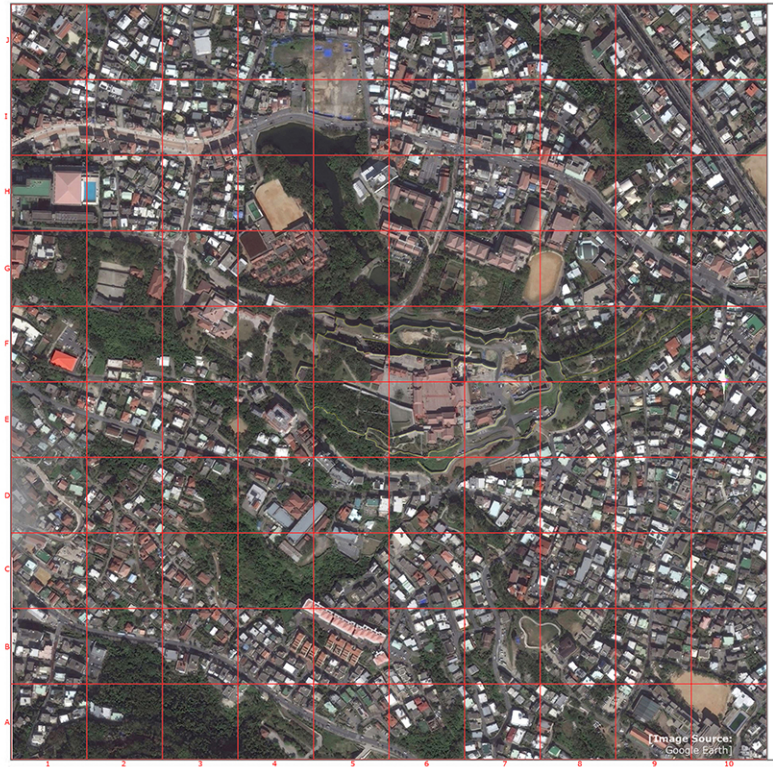
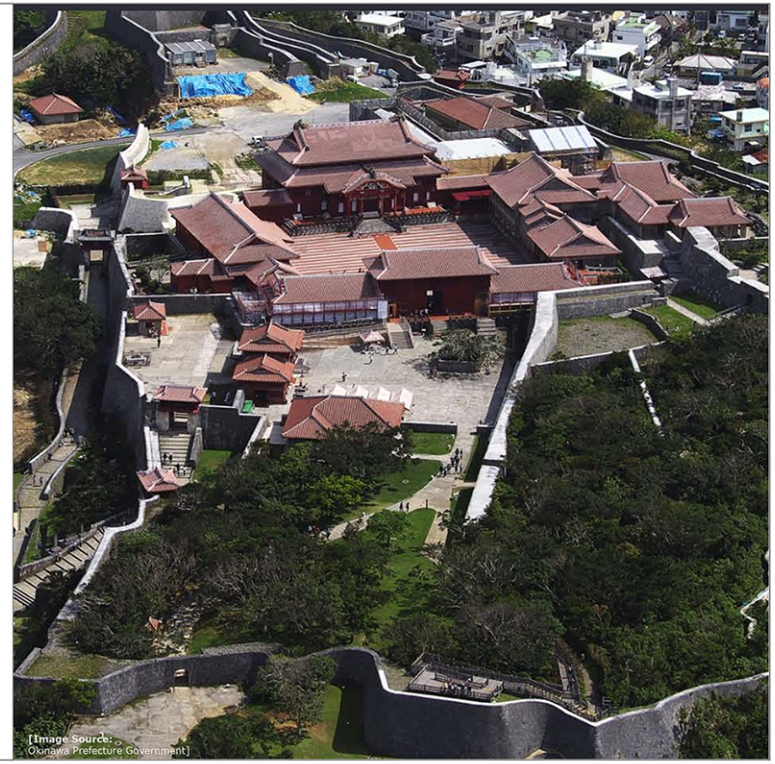
p 276
FIGURE 85

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC





[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Current conditions of Shuri-jo (2015)

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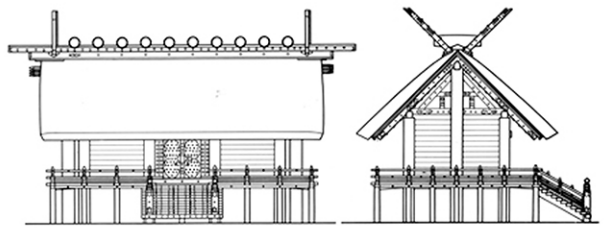
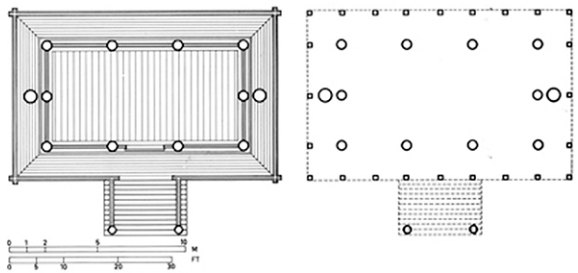
p 277
FIGURE 86

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC





[Images Source:
Tange, Kenzo and Noboru Kawazoe. *Ise: Prototype of Japanese Architecture* (1965)]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

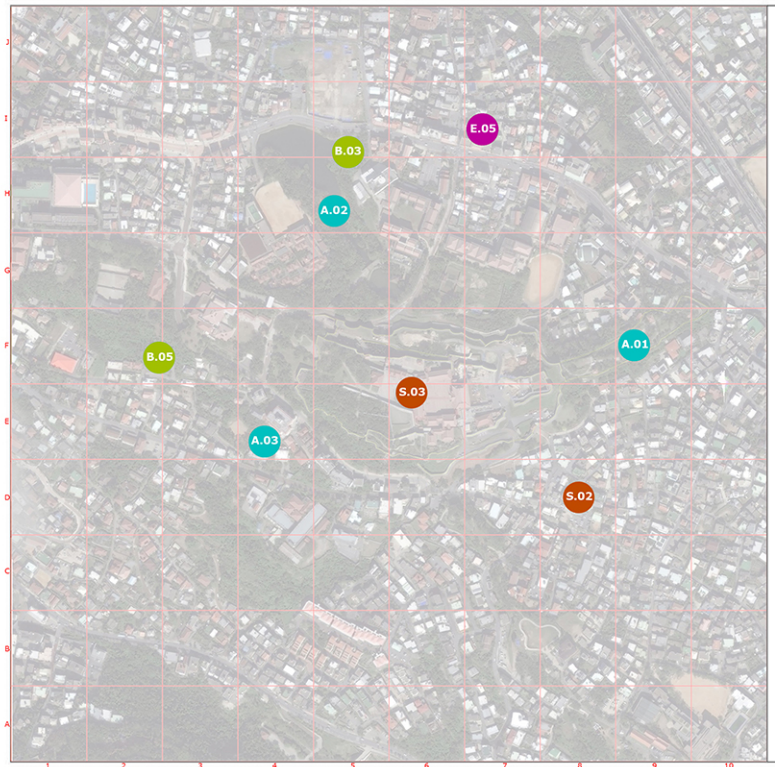
Ise Temple, Mie Prefecture, Japan

a;ldskjf;alkdfj;alkdfj;ladkf as;lfkjadsl ;laksjf ;l asldj asfd ;asl j aslj ads;lkfj as ;lkasdj afdkj alsdk alkdsjf;alksd-jf;laksdjf;alkd a;sldkja;sldkfja;dlfk a;dslkfja;dslkf j asdflk-jasd a;dslkfj asd ;lakjfd a;sdlkf j a;dslkfj a; aakdj ;asldkfj a;alsdkf j;alkdjaf ;ak ; a;lkdjf ;akd;flk a; adf ad lakjdf lk

a;ldskjf;alkdfj;alkdfj;ladkf as;lfkjadsl ;laksjf ;l asldj asfd ;asl j aslj ads;lkfj as ;lkasdj afdkj alsdk alkdsjf;alksd-jf;laksdjf;alkd a;sldkja;sldkfja;dlfk a;dslkfja;dslkf j asdflk-jasd a;dslkfj asd ;lakjfd a;sdlkf j a;dslkfj a; aakdj ;asldkfj a;alsdkf j;alkdjaf ;ak ; a;lkdjf ;akd;flk a; adf ad lakjdf lk

p 278
FIGURE 87

B I O T I C | **A B I O T I C** | **S O C I A L** | **E C O N O M I C**



A.03 [Climate]
Abiotic system: measuring tropical climate patterns such as typhoon frequency

E.05 [Airspace Grid]
Economic system: tracking use and control of airspace, such as military aviation takeoff/landing zones

ATMOSPHERIC

B.03 [Natural Habitat]
Biotic system: designating intact/contiguous greenbelts that support wildlife

S.03 [Building Pattern]
Social system: monitoring building typologies, densities, uses, conditions, sustainability, etc.

S.02 [Transportation Network]
Social system: tracking use and conditions of roads, rails, pathways, and other infrastructure supporting multi-modal circulation

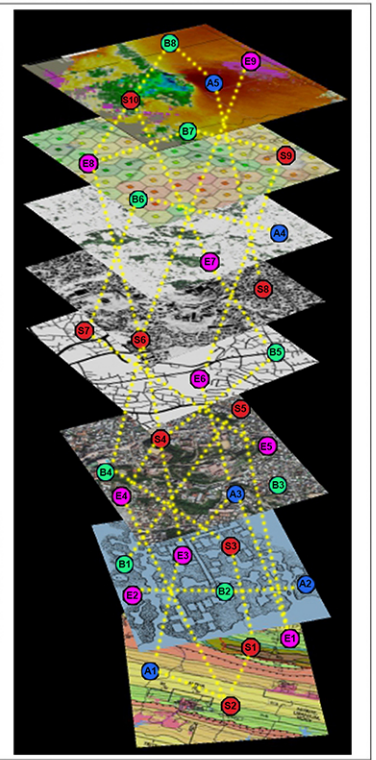
TERRANEAN

B.05 [Agriculture]
Biotic system: designating locations and types of food production for commercial and personal consumption

A.02 [Hydrology]
Abiotic system: tracking patterns and usage of water, and relationship with natural and human environments

A.01 [Land & Soil]
Abiotic system: monitoring surface and subsurface level conditions, including soil health and possible contaminants

SUB-TERRANEAN



[Image Source: Author]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Shuri-jo with BASEmapping Model

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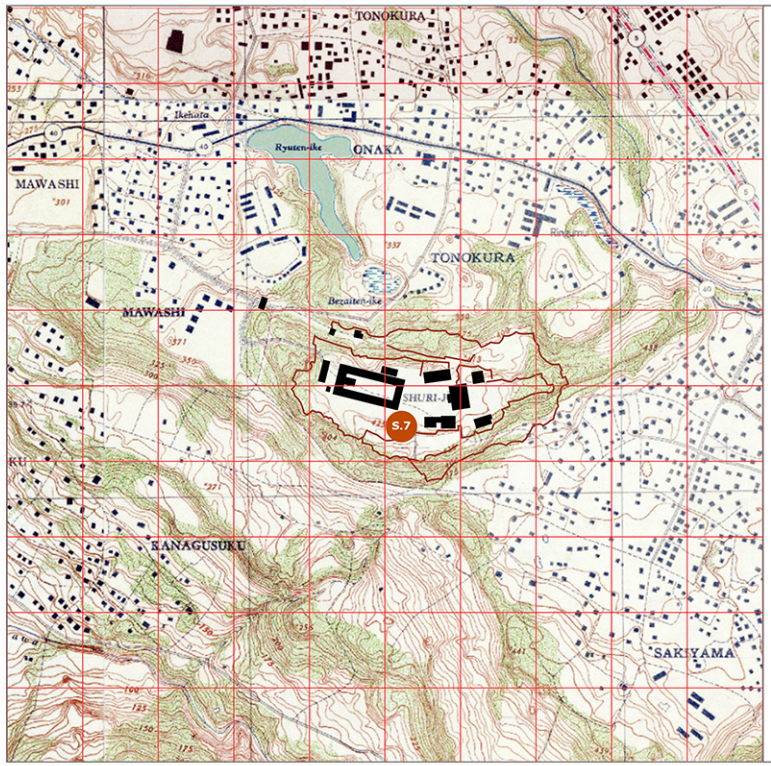
p 279
FIGURE 88

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



[Image Source:
Okinawa Prefectural Archives.
Records of the Government of the Ryukyu Islands:
1945 to 1972]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Prewar view of *Seiden* building and *Una* courtyard (c. 1925)

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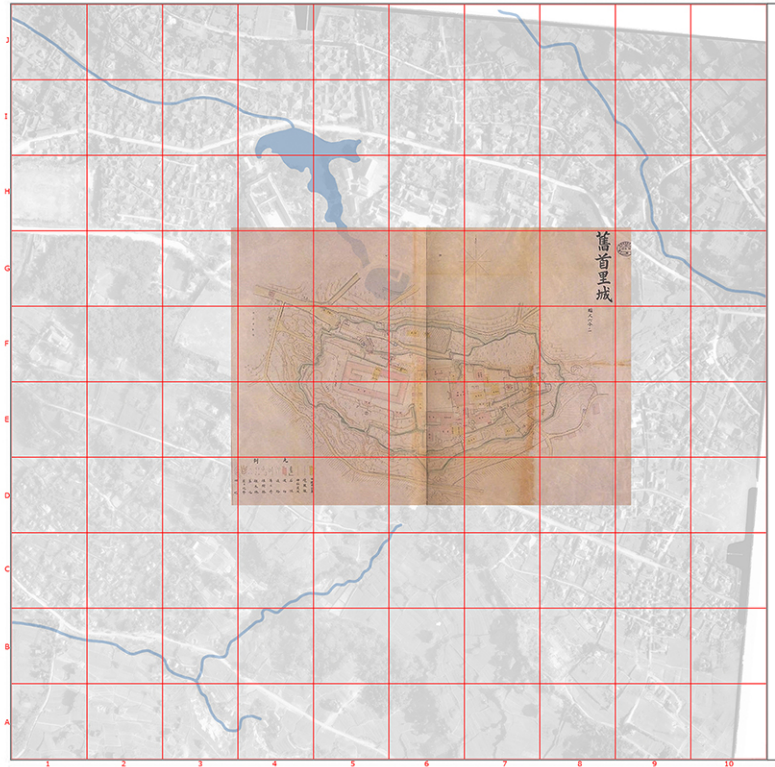
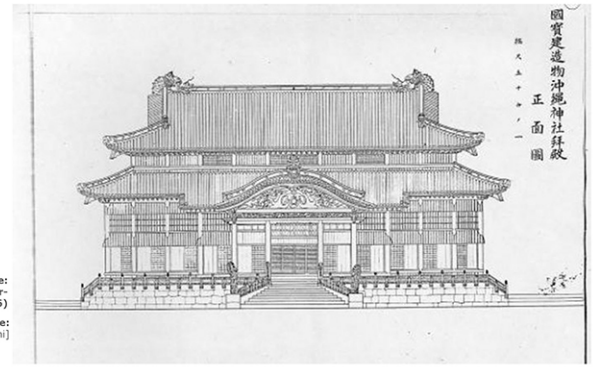
p 280
FIGURE 89

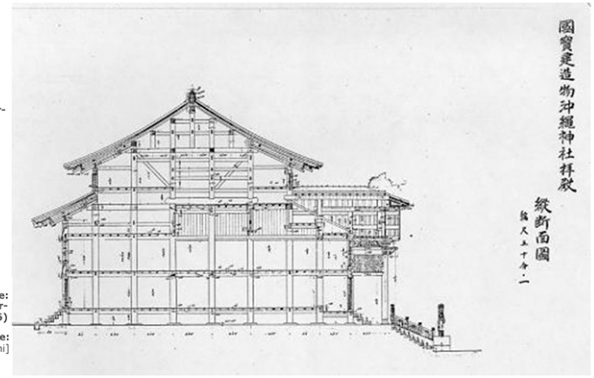
BIOTIC | ABIOTIC | SOCIAL | ECONOMIC





Right image:
Senden (main hall) preservation drawing (c. 1936)

[Image Source:
So Mizoguchi]



Left image:
Senden (main hall) preservation drawing (c. 1936)

[Image Source:
So Mizoguchi, and Author]

Right image:
Senden (main hall) preservation drawing (c. 1936)

[Image Source:
So Mizoguchi]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Preservation drawings of Shuri-jo Seiden (1936)

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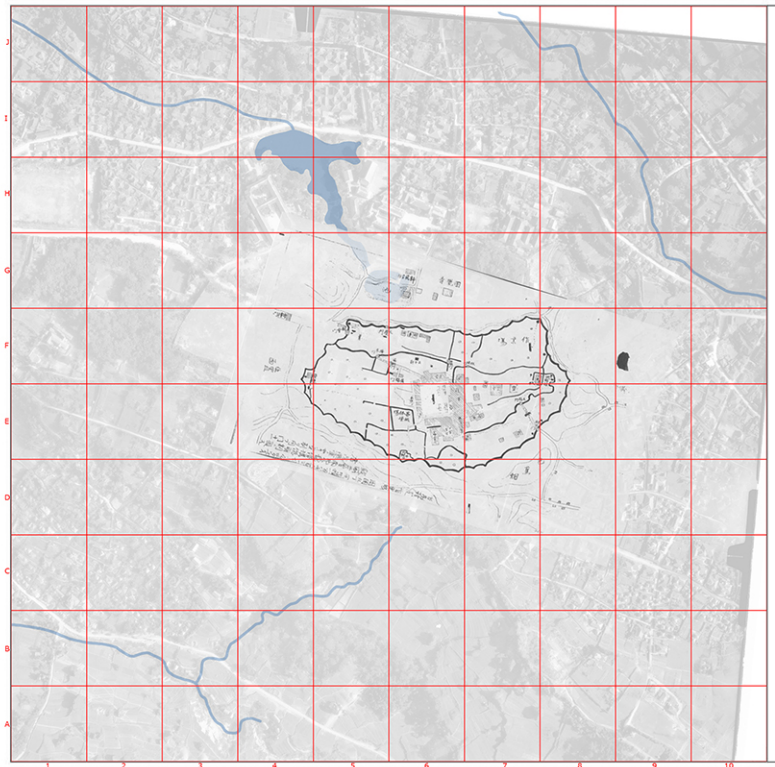
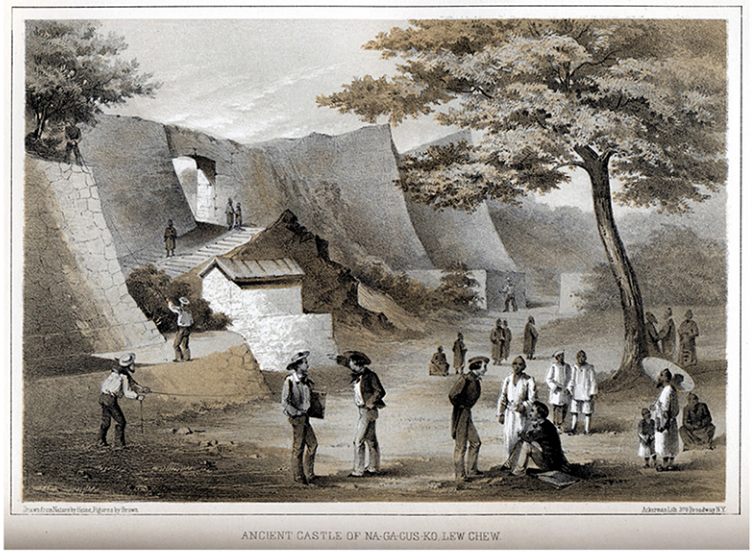
p 281
FIGURE 90





Left image:
Shuri-jo site plan, illustrating garrison walls (c. 1853)

[Image Source:
So Mizoguchi, and Author]

Image above:
Entrance to Shuri Castle,
Lithograph by William Heine (1853)

[Image Source:
Commodore Matthew Perry Expedition]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Early plan of Shuri-jo, with lithograph by William Heine (1853)

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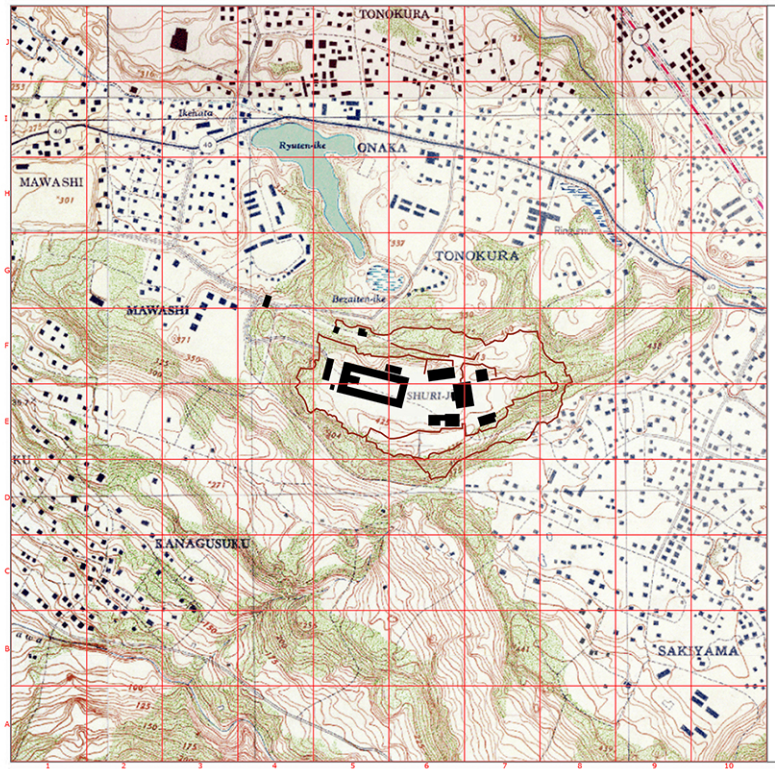
p 282
FIGURE 91

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Left image:
Shuri-jo map with buildings and topography (c. 1944)

[Image Source:
Okinawa Prefecture Archives, and Author]

Image above:
Walls of Shuri following battle Army Air Corps Photo, Lt. Reinhart Kowalis (1945)

[Image Source:
Urthman's Genealogy Blog. "Shuri Castle, Okinawa in 1945 and the Discovery of a Roll of Film Left Behind"]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Prewar plan of Shuri-jo; war-damaged *aikatazumi* walls (1945)

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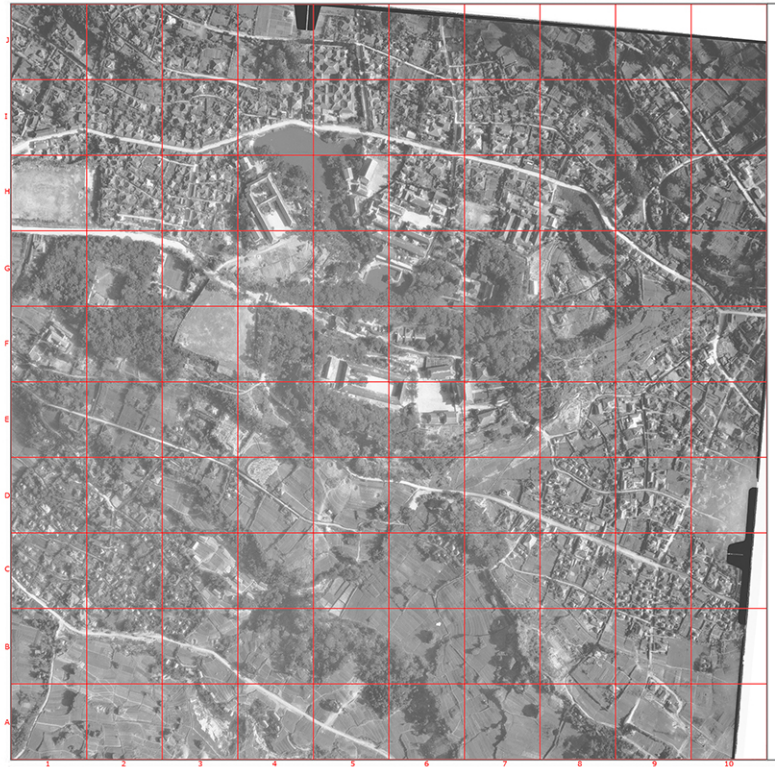
p 283
FIGURE 92

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Left Image:
Shuri-jo aerial photograph
(c. 1944)

[Image source:
Okinawa Prefecture Archives,
and Author]

Image above:
Okinawan village
Army Air Corps Photo, Blackie (c. 1944)

[Image source:
Blackie the Photographer website]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Prewar aerial photo of Shuri-jo, with traditional farm village

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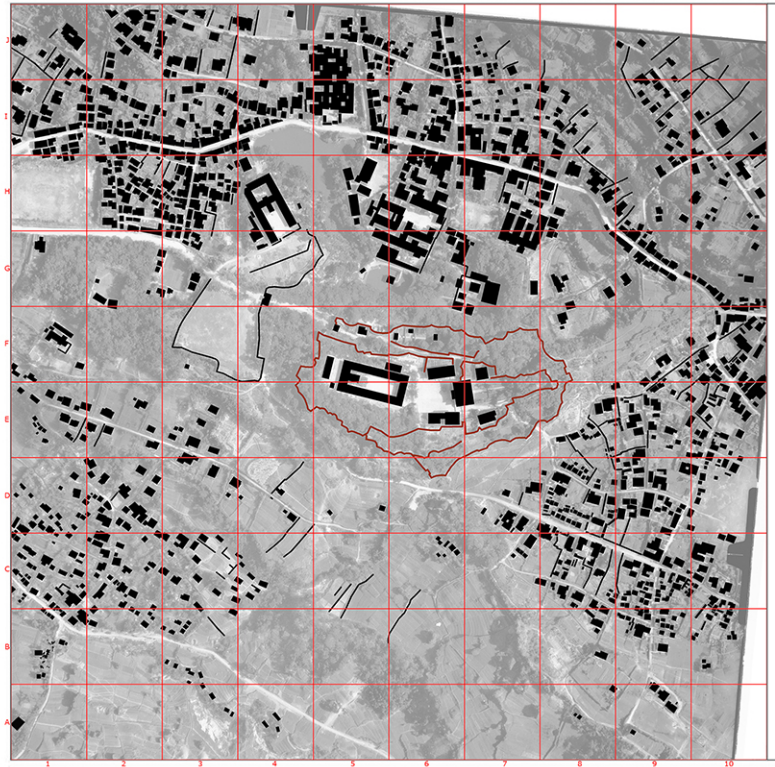
p 284
FIGURE 93

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Left Image:
Shuri-jo aerial photograph
(c. 1944)

[Image source:
Okinawa Prefecture Archives,
and Author]

Image above:
Okinawan village
USCAR film, "Okinawa: Keystone of the Pacific (c. 1945)

[Image source:
Screen capture, 22:22 mark]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Prewar aerial photo of Shuri-jo, with traditional farm village

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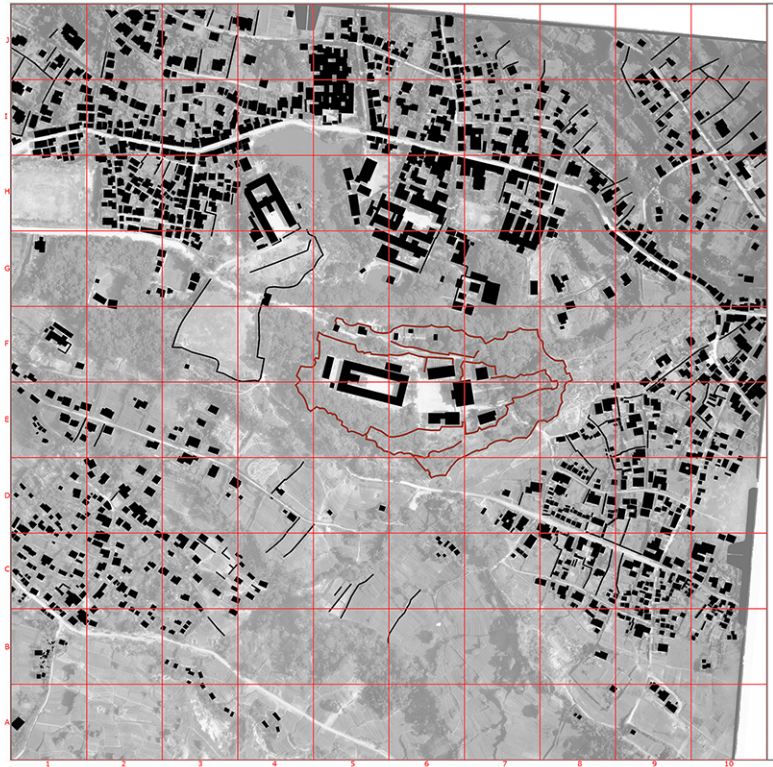
p 285
FIGURE 94

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Left Image:
Shuri-jo aerial photograph (c. 1944)

[Image source:
Okinawa Prefecture Archives, and Author]

Image Above:
Okinawan family and house, Army Air Corps Photo, Lt. Reinhart Kowalis (c. 1944)

[Image source:
Urthman's Genealogy Blog. "Shuri Castle, Okinawa in 1945 and the Discovery of a Roll of Film Left Behind"]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Prewar aerial photo of Shuri-jo, with traditional farm village

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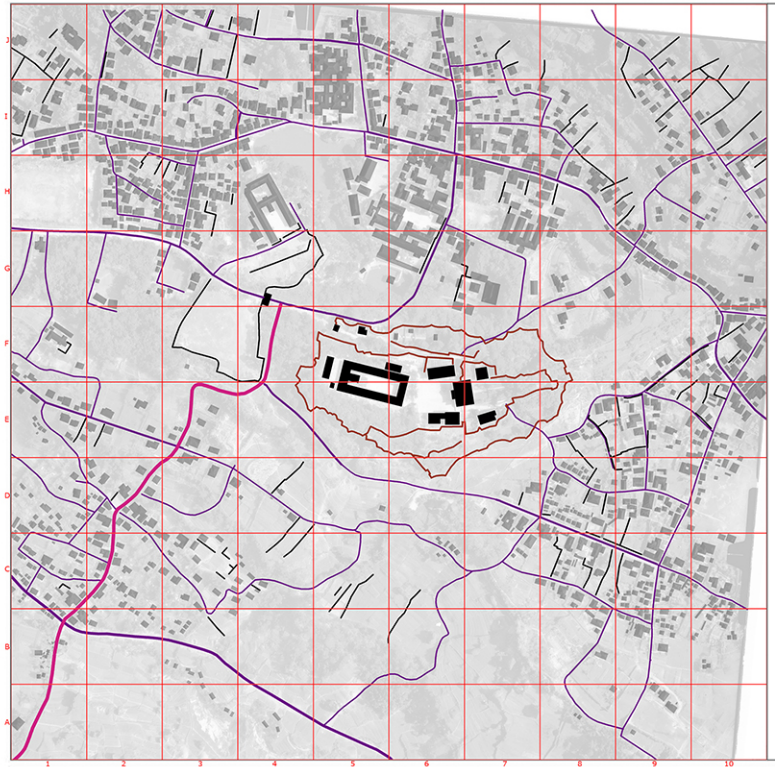
p 286
FIGURE 95

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Right image:
Okinawan village street scene
Lithograph by WilliamHeine (1853)

[Image Source:
Commodore Matthew Perry Expedition]

Right image:
Banana Groves at Chuto
Woodblock print by
Katsushika Hokusai (1832-33)

[Image Source:
From the series:
"Eight Views of the Ryukyu Islands."
Worcester Art Museum,
Bancroft College]

Left image:
Shuri-jo aerial photo, with road network (c. 1944)

[Image Source:
Okinawa Prefecture Archives,
and Author]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Prewar aerial of Shuri-jo; lithograph and woodblock of village

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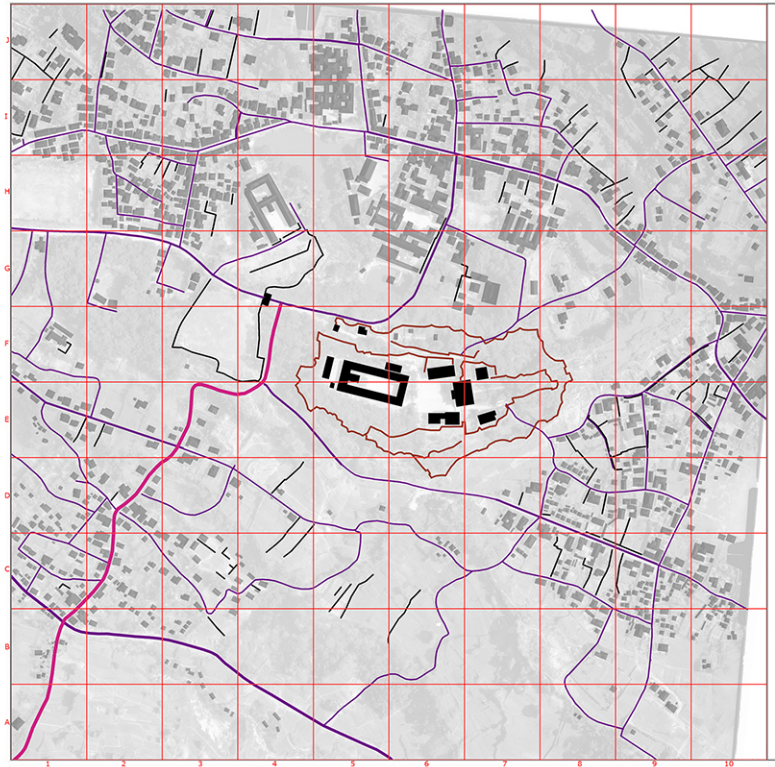
p 287
FIGURE 96

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Left image:
Shuri-jo aerial photo, with road network (c. 1944)

[Image source:
Okinawa Prefecture Archives, and Author]

Image above:
Okinawan village street scene
Army Air Corps Photo, Blackie (c. 1945)

[Image source:
Blackie the Photographer website]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Prewar aerial photo of Shuri-jo, with photograph of village

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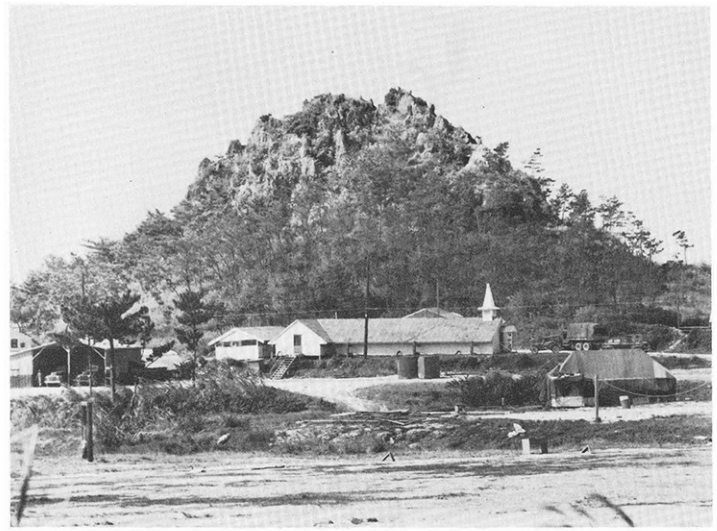
p 288
FIGURE 97



A. Pinnacle at Kadena Airfield composed of well-cemented limestone. Masses such as these are good quarry sites.

Left image:
Shuri-jo aerial photo, with landscape and topographical features (c. 1944)

[Image source:
Okinawa Prefecture Archives,
and Author]

Image above:
Topographical feature at nearby Kadena Airfield
U.S. Army Corps of Engineers Photo (1957)

[Image source:
USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Natural systems of Shuri-jo, with Kadena pinnacle

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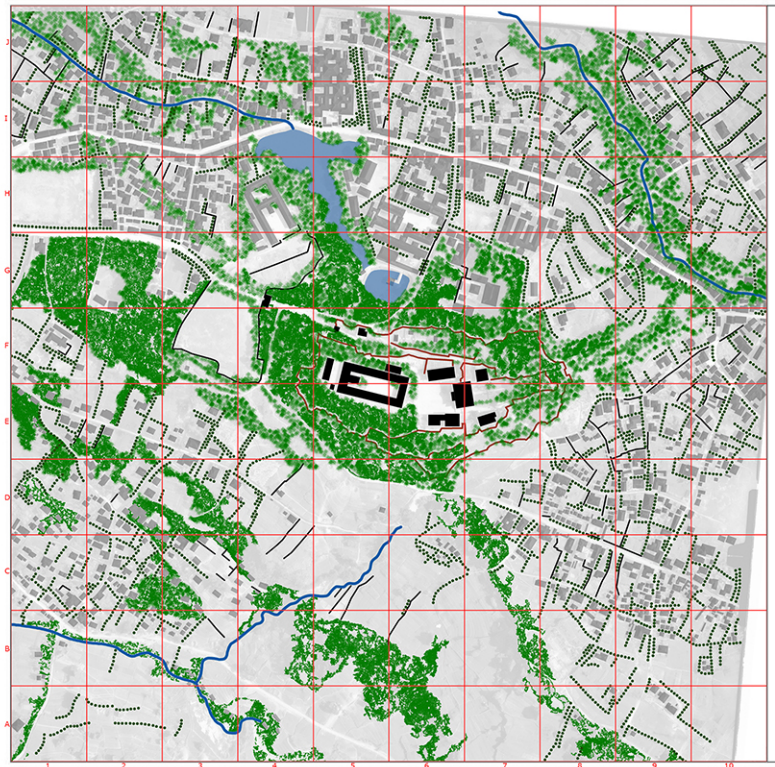
p 289
FIGURE 98

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Right image:
Nagahama Quarry activity
U.S. Army Corps of Engineers
(c. 1955)

[Image source:
USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]

A. Aerial view of Nagahama quarry. This face exposes about 200 feet of well-cemented coralline limestone. Direction of photo is southeast.

Right image:
Tunnel at Naha Airfield
U.S. Army Corps of Engineers
(c. 1955)

[Image source:
USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]

Left image:
Shuri-jo aerial photo, with landscape and topographical features (c. 1944)

[Image source:
Okinawa Prefecture Archives, and Author]

B. Tunnel east of Naha Airfield. This tunnel was dug in silty sand, by the Japanese, and completely lined to prevent material from sloughing.

Natural systems of Shuri-jo, with Nagahama quarry

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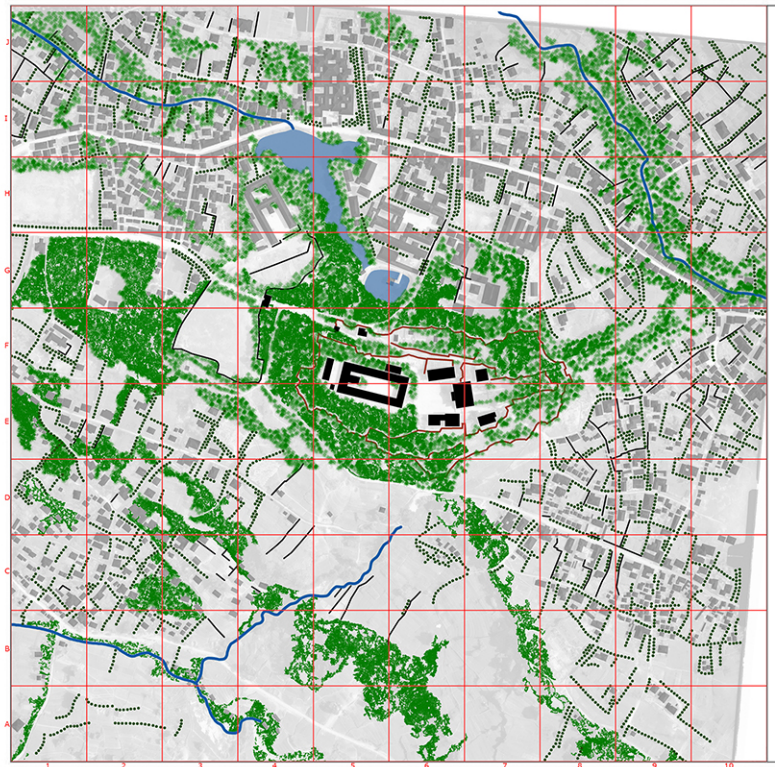
p 290
FIGURE 99

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Right image:
Okinawa farms
U.S. Army Lt. Robert Rock
(1945-46)

[Image source:
Robert Rock. Ryukyu America Historical Research Society. "Photos Donated by Robert Rock"]

Right image:
U.S. Infantry and Okinawa farms
(1945)

[Image source:
Blackie the Photographer website]

Left image:
Shuri-jo aerial photo, with landscape and topographical features

[Image source:
Okinawa Prefecture Archives, and Author]

Natural systems of Shuri-jo, with agricultural fields

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p 291
FIGURE 100

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Image above:
Traditional bekko-baka tombs integrated into the landscape

[Image source:
Donn Cuson, "Remembering Okinawa" website]

Left image:
Shuri-jo aerial photo, with landscape and topographical features

[Image source:
Okinawa Prefecture Archives, and Author]

Natural systems of Shuri-jo, with *kamekōbaka* tombs

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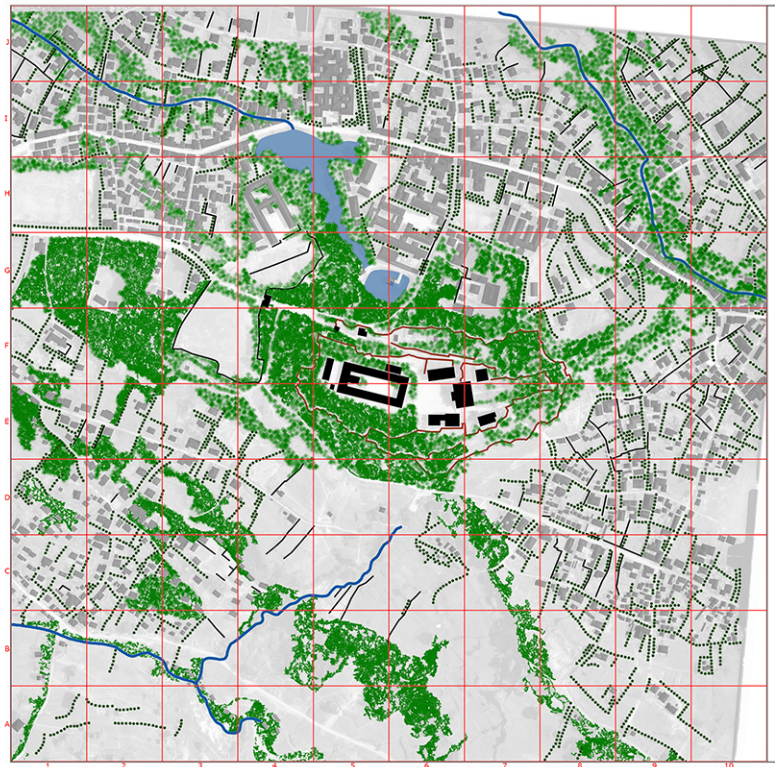
p 292
FIGURE 101

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Left image:
"Mama-san" by Blackie the Photographer
(c. 1945)

[Image source:
Blackie the Photographer website]

Right image:
Okinawa village
U.S. Army Lt. Robert Rock
(1945-46)

[Image source:
Robert Rock. Ryukyu America Historical Research Society. "Photos Donated by Robert Rock"]

Left image:
Shuri-jo aerial photo, with landscape and topographical features

[Image source:
Okinawa Prefecture Archives, and Author]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Natural systems of Shuri-jo, with residential cluster

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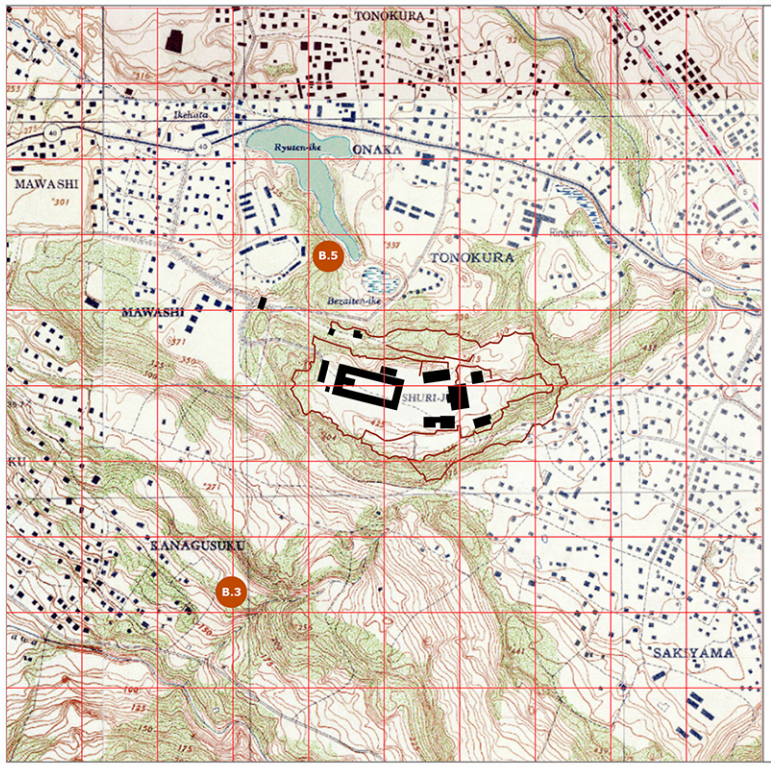
p 293
FIGURE 102

B I O T I C | **A B I O T I C** | **S O C I A L** | **E C O N O M I C**



ANIMALS

FUNCTION

MICROBES

NICHE

PLANTS

- B6_Ecology & Conservation Biology
- B5_Plant Systematics
- B4_Ethnobotany
  - Michigan State Univ.
  - Univ. of Hawaii
  - Univ. of Ryukyus
  - Sakamaki Hawley Collection
- B3_Plant Physiology Ecology
- B2_Plant Community Ecology
- B1_Plant Population Biology

STRUCTURE

Left image:
Shuri-jo aerial photo, with landscape and topographical features

[Image source:
Okinawa Prefecture Archives,
and Author]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Natural systems of Shuri-jo, with Mind-mapping detail

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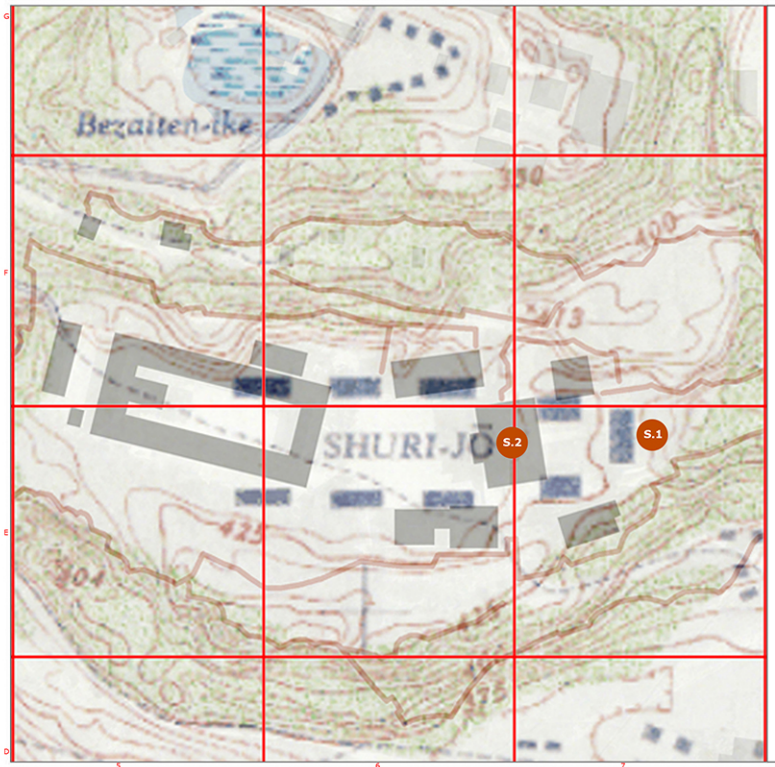
p 294
FIGURE 103

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Right image
S-1 (map reference),
Ryudai Admin Building (c. 1953)

[Image source:
USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]

Right image
S-2 (map reference),
Restored Senden (main hall) of

[Image source:
Wikimedia. "at Shuri Castle in Naha, Okinawa prefecture, Japan"]

Left image:
Shuri-jo map with buildings and topographical features (c. 1944); Ryudai plan with phase one buildings and quadrangle (1950)

[Image Sources:
Okinawa Prefecture Archives; Michigan State University. University of the Ryukyus Project Records, and Author]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ryudai admin. building (above) & reconstructed Seiden (below)

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BIOTIC | ABIOTIC | SOCIAL | ECONOMIC

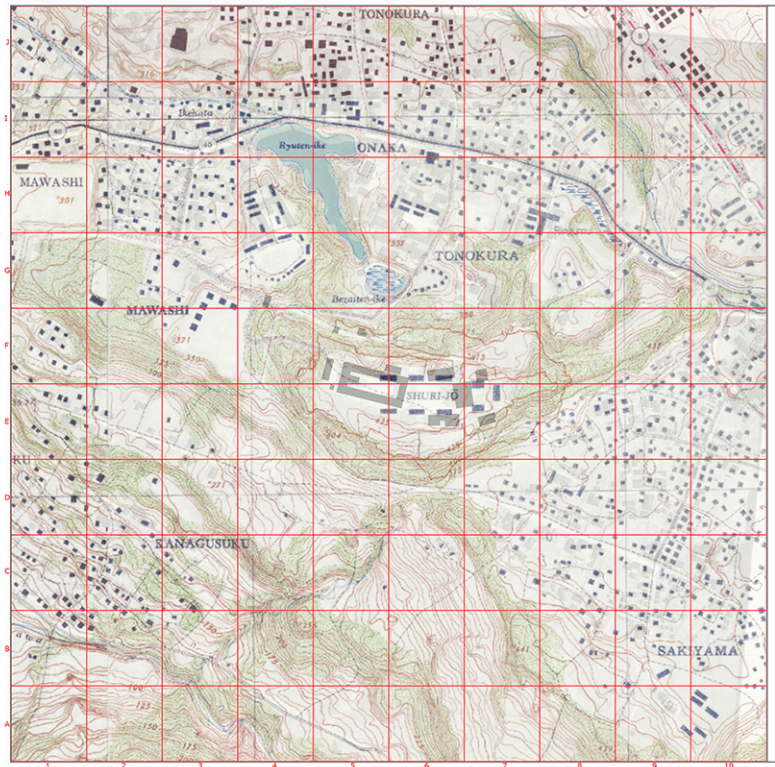

Image above:
Inaugural stamp celebrating opening of Ryudai;

Right image:
Commemorative Ryudai stamp, with Administration building and Shuri Castle

[Images source:
GRI postal service, Baxley Stamps website]

Left image:
Shuri-jo map with buildings and topography (c. 1944);
Ryudai plan with phase one buildings and quadrangle (1950)

[Image Sources:
Okinawa Prefecture Archives;
Michigan State University. University of the Ryukyus Project Records]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Commemorative postage stamp: inauguration of Ryudai (1950)

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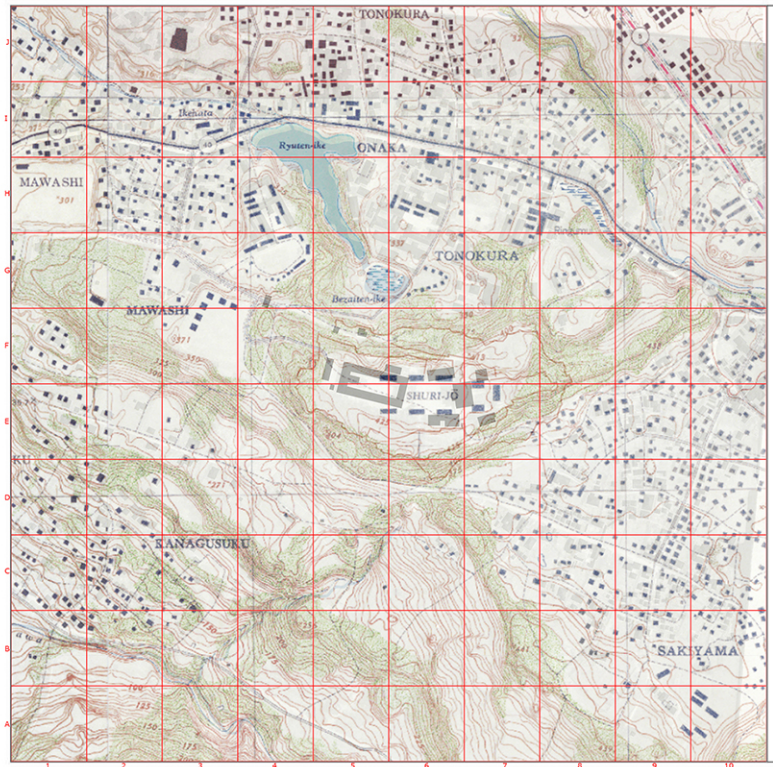
p 296
FIGURE 105

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Left image:
Shuri-jo map with buildings and topographical features (c. 1944); Ryudai plan with phase one buildings and quadrangle (1950)

[Image Sources:
Okinawa Prefecture Archives; Michigan State University. University of the Ryukyus Project Records, and Author]

Image above:
Early campus master plan rendering
Unknown Author (c. 1953)

[Image source:
Moshin Morita. *University of the Ryukyus 50th Anniversary Book*]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ryudai campus master plan sketch (c. 1950)

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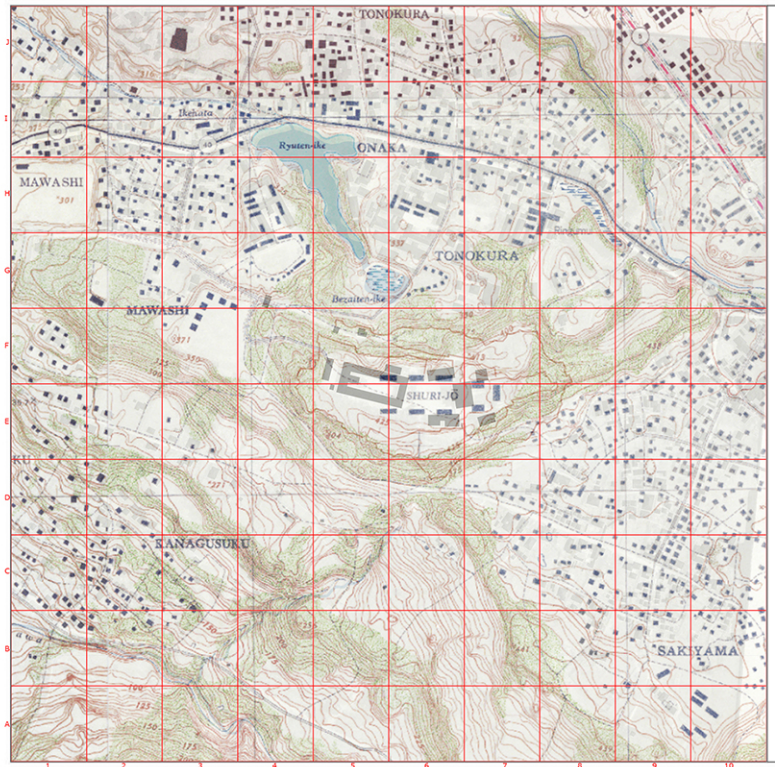
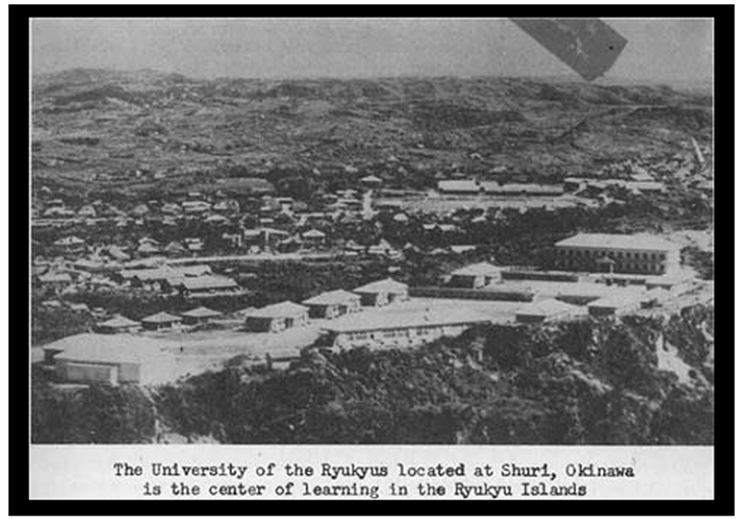
p 297
FIGURE 106

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC





Left image:
Shuri-jo map with buildings and topographical features (c. 1944); Ryudai plan with phase one buildings and quadrangle (1950)

[Image Sources:
Okinawa Prefecture Archives; Michigan State University. University of the Ryukyus Project Records, and Author]

Image above:
Ryudai initial construction phase (c. 1951)

[Image source:
USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Birds-eye view of Ryudai campus (1950)

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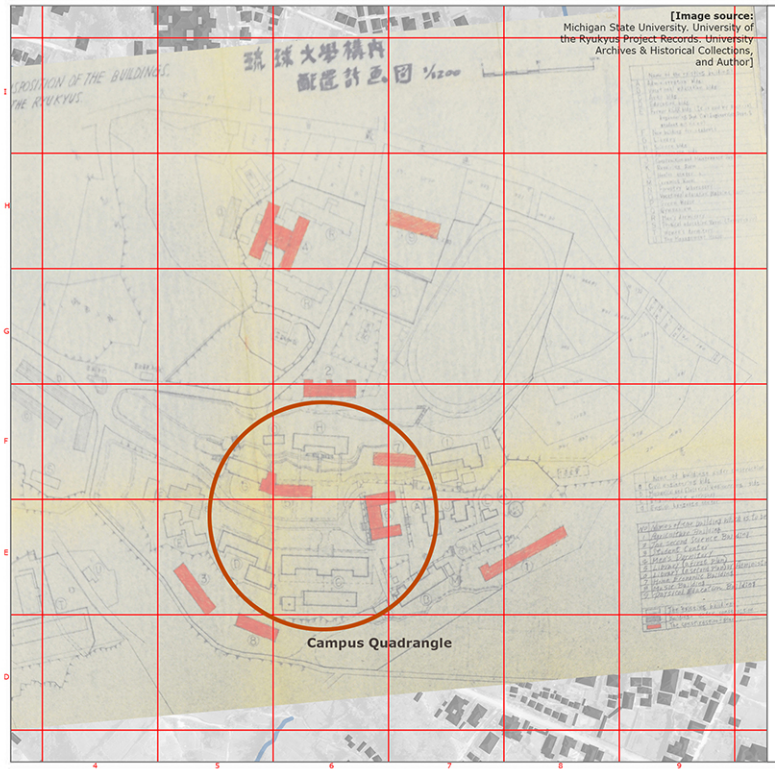
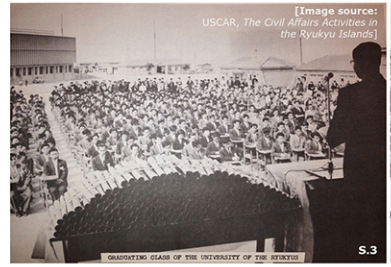
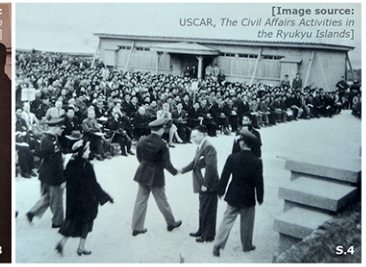
p 298
FIGURE 107

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC







[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Public events in Ryudai quadrangle

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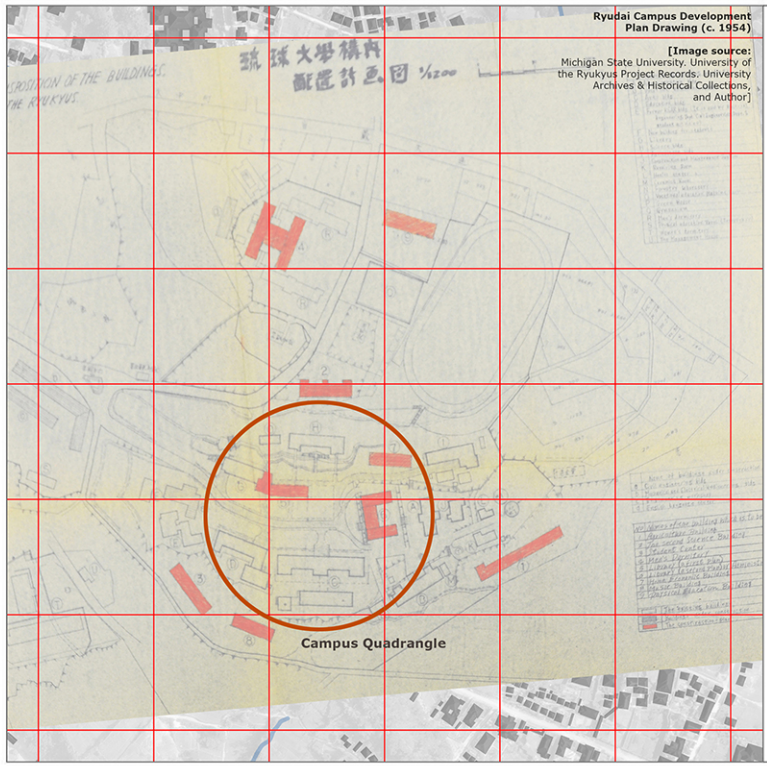
p 299
FIGURE 108

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Ryudai Campus Development Plan Drawing (c. 1954)

[Image source: Michigan State University. University of the Ryukyus Project Records. University Archives & Historical Collections, and Author]

University Review
(A Student Publication)

No. 13 — Dept. of English, College of Arts and Sciences, University of the Ryukyus — DECEMBER 3, 1966

16th University Festival Opens

The 16th festival of the University of the Ryukyus is going to be held for two days, on December 3rd and 4th. It is held annually to introduce the University to the general public, and to contribute to the development of the community. The festival begins with the bonfire on December 2nd, the eve of the festival, and will continue for two days with the delightful programs.

The students have worked hard for an opportunity to introduce the results of their studies and club activities on the festival days. Now, there are more than ninety clubs on the campus, and they will give various shows and exhibitions in each evening. They also expect many people to visit and enjoy the university festival. There is no admission fee.

A bird's-eye view of the University of the Ryukyus

ENGLISH SPEECH CONTEST
The English Club gives a speech contest annually for the students of the school. This year, it is to be held in Room 105, at the Liberal Art and Science Building from 2 to 5 P.M. on Dec. 3rd, with about twenty speakers from several high schools. The Judges are Mr. Kentoku Yagi,Mr. Hiroichi Kawahira, Mr. Toshio Kawabata and Mr. Yoshio Shimoji.

ENGLISH SPEAKING GUIDE
Every year we have many foreign visitors on the campus. The students from the English Guide Club are going to guide the visitors in English so that they can enjoy the university festival.

PUPPET SHOW
The Child Culture Study Club is going to perform a puppet show for the young visitors in Room A-4 at the General Education Building. It is one of the most popular events among the youngsters.

TEA CEREMONY
There is now having demonstration of the tea ceremony in Room 102 at the Liberal Art and Science Building. The ceremony given out-doors, will be held in front of the Education Building by the Tea Ceremony Club of the URA SENIOR SCHOOL.

FLOWER ARRANGEMENT
An exhibition of flower arrangements will be given by the Flower Arrangement Club in Room 104 at the Liberal Art and Science Building. The members are from the IKENOBO SCHOOL.

MOCK TRIAL
A mock trial will be performed by Law students from 1 to 5 P.M. on December 3rd and 4th in Room 403 at the Education Building.

Cont. Of New Labo. Will Be Completed On The Next Murch

The air-conditioned English language laboratory is now under reconstruction. It will have 54 booths, each equipped a tape recording machine.

Here the students can practice aloud their English conversation lessons and then hear how their own voices sound by playing back the sound tapes. The class teacher can listen to the individual student and can talk to them over the microphone to make immediate corrections of errors. Studenas also can talk with other students in other booths.

"Student Center Should Be Set Up Immediately"

New President Expresses His Policy

Mr. Teruya

Mr. Seishiro Teruya was elected president of the student body of our university in November.

There is much work that he plans to do to meet our needs. I interviewed him with some important questions connected directly with our life.

He is a junior in the Department of Civil Engineering, and lives in Ginowan City, Chatan territory. When I called on him, he was in bed. He said he had worked late the night before. He seemed to be very tired, but ready to answer questions.

First I asked what were the plans for the University Festival. He said that the most important plan was to set up the student center. Allotment of rooms to clubs is included in it, of course.

He told me about the problem of the press association. He said that the budget for this association was not distributed properly and that how to appropriate it would be discussed before all the students.

In the last central committee meeting on Nov. 21 freezing of the budget by the vesting committee of the last term was released. "This will be the more important work in our university during my term," he said.

Next I asked about the problems outside the university. He declared firmly he would oppose the U.S. military policy in Okinawa. Furthermore, he said he would keep on protesting against the war, plus imperialistic aggression of America into Vietnam and against nuclear tests of Red China. One of the most important problems, concerning education in Okinawa will be the functional reversion of educational rights to Japan. How will be grapple with this problem as the head of the students body? He answered his question as follows. "The functional reversion of educational rights to Japan is generally understood as gradation to an all out return, but that's not correct." By this reversion the Army Bases in Okinawa would be made fewer and at the same time this will only check and diminish the labor movement in Okinawa. For this reason we should oppose functional reversion to Japan, and military reduction."

At the end of the interview he hoped that all the students would be cooperative with student committee.

—by M. S.—

Immediate employment
Man to do sales work $75.80 to start.
Must speak, write, and read English fluently.
R a p i d advancement to those who qualify.
Seiwa Shokai Co.

Wanted A Few men
Who have majored in English, Law, Economic and Business.
$62 to start.
Chuo Sogo Ginko

University Review

Editor-in-Chief ..... Yasuko Ohama
Advisor ..... Seiho Yagi, Toshio Kawabata
Staff
Ryosei Nakayama, Sumiko Kudaka, Hiroko Oyakawa, Noriko Oshiro, Mamoru Shimoji, Keiko Ikoa, Yukishiro Hamamoto.

The University Review is published bi-monthly by the students of the Department of English, College of Arts and Science, the University of the Ryukyus, Shuri, Naha.

Dear Sir

I am a Chinese boy. I am 19 years old and I am studying in high school. I would like to ask you to do me a favor. I want to find a pen pal, boy or girl, who likes collecting stamps. I can write in English and Chinese. My hobbies are exchanging stamps, F.D.C. and souvenir sheets.

I thank you in advance for your kind help.

Yours sincerely,

P.S. I sent you a set of stamps.

From: CH JEN WANG
3-14-123, WEN CHOU STREET, TAIPEI, TAIWAN REPUBLIC OF CHINA

Right Image:
Ryudai Student Newspaper (December 3, 1966)

[Image source: Michigan State University. University of the Ryukyus Project Records. University Archives & Historical Collections]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Student newspaper: 16th annual University Festival (1966)

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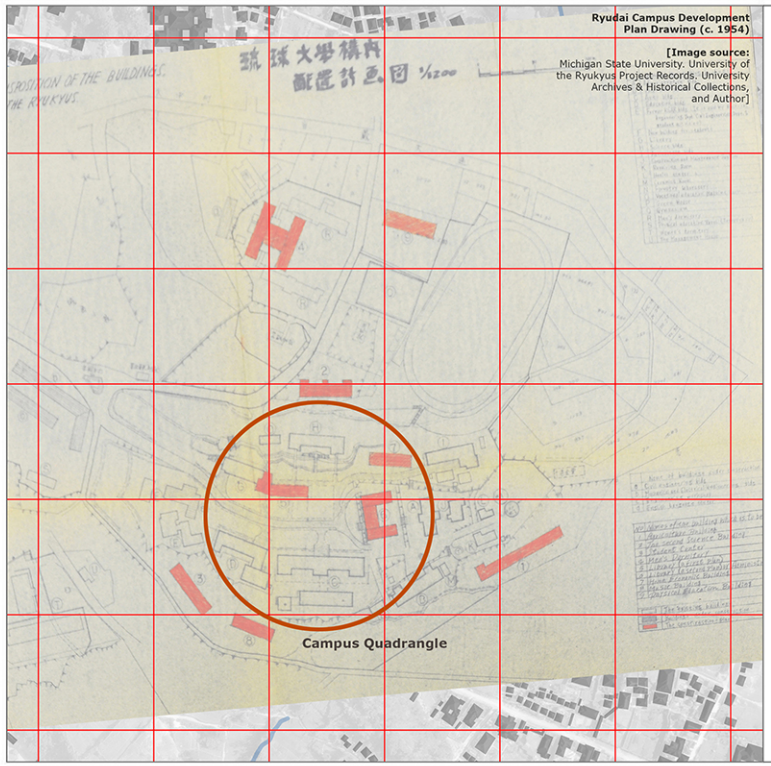
p 300
FIGURE 109

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Ryudai Campus Development Plan Drawing (c. 1954)

[Image source:
Michigan State University. University of the Ryukyus Project Records. University Archives & Historical Collections, and Author]

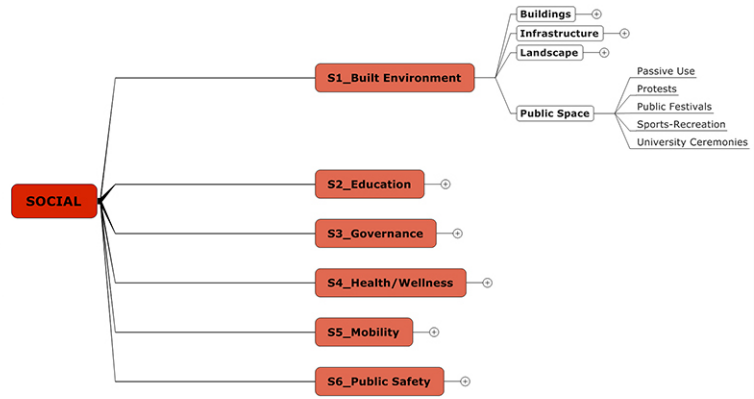


Image above:
Example of Mindmap branch of BASEmapping proflie

[Image source:
Author]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ryudai public space shown with BASEmodel mind-map detail

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p 301
FIGURE 110

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC

Image above:
Public ceremony, Ryudai administration building and central quadrangle (1951);

[Image source:
USCAR photograph.
Moshin Morita. *University of the Ryukyus 50th Anniversary Book*]

S1: Restored Shuri-jo Senden building, 2014;
[Image source: Author]

S2: U.S. Marines, Battle of Okinawa, 1945;
[Image source: "Tomori Lion of Okinawa." VI Corps Combat Engineers]

S3: American political cartoon, "Crossroads of the Pacific." 1945;
[Image source: Remember the Deadeyes website]

S4: Okinawan stamp, 1953;
[Image source: GRI Postal Service, Baxley Stamps website]

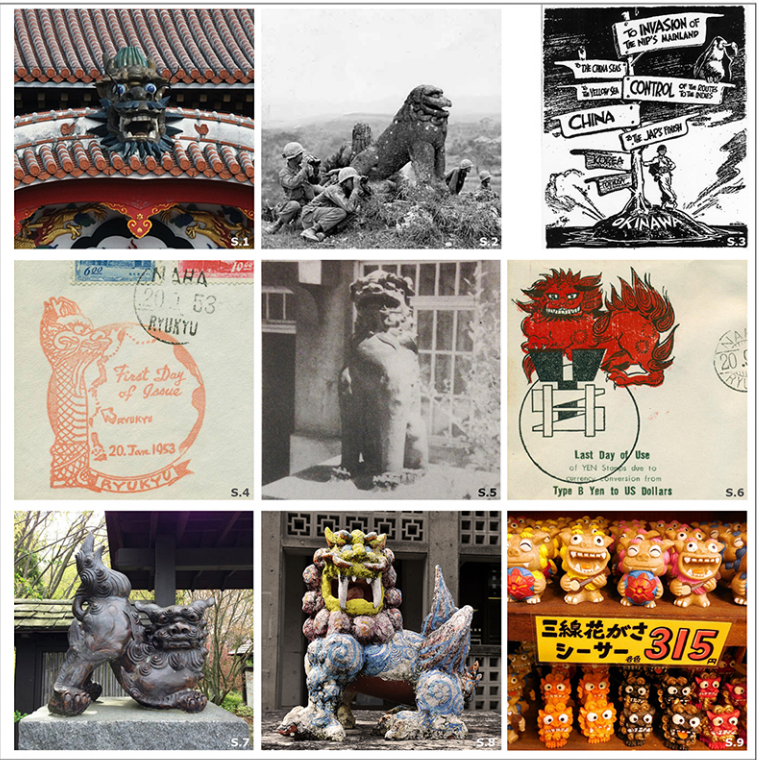
S5: Ryudai classroom building, 1953;
[Image source: USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]

S6: Okinawan stamp, 1958;
[Image source: GRI Postal Service, Baxley Stamps website]

S7: Kathleen D. & Milton E. Muelder Japanese Garden at Michigan State, 2014;
[Image source: Japan Center for Michigan Universities]

S8: Shisa in front of Okinawa Prefecture University of the Arts, 2014;
[Image source: Author]

S9: Tourist souveniers, 2014;
Source: Mavis Lau. "Endless Love in Okinawa"]



[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ryudai graduation in front of administration building (c. 1954)

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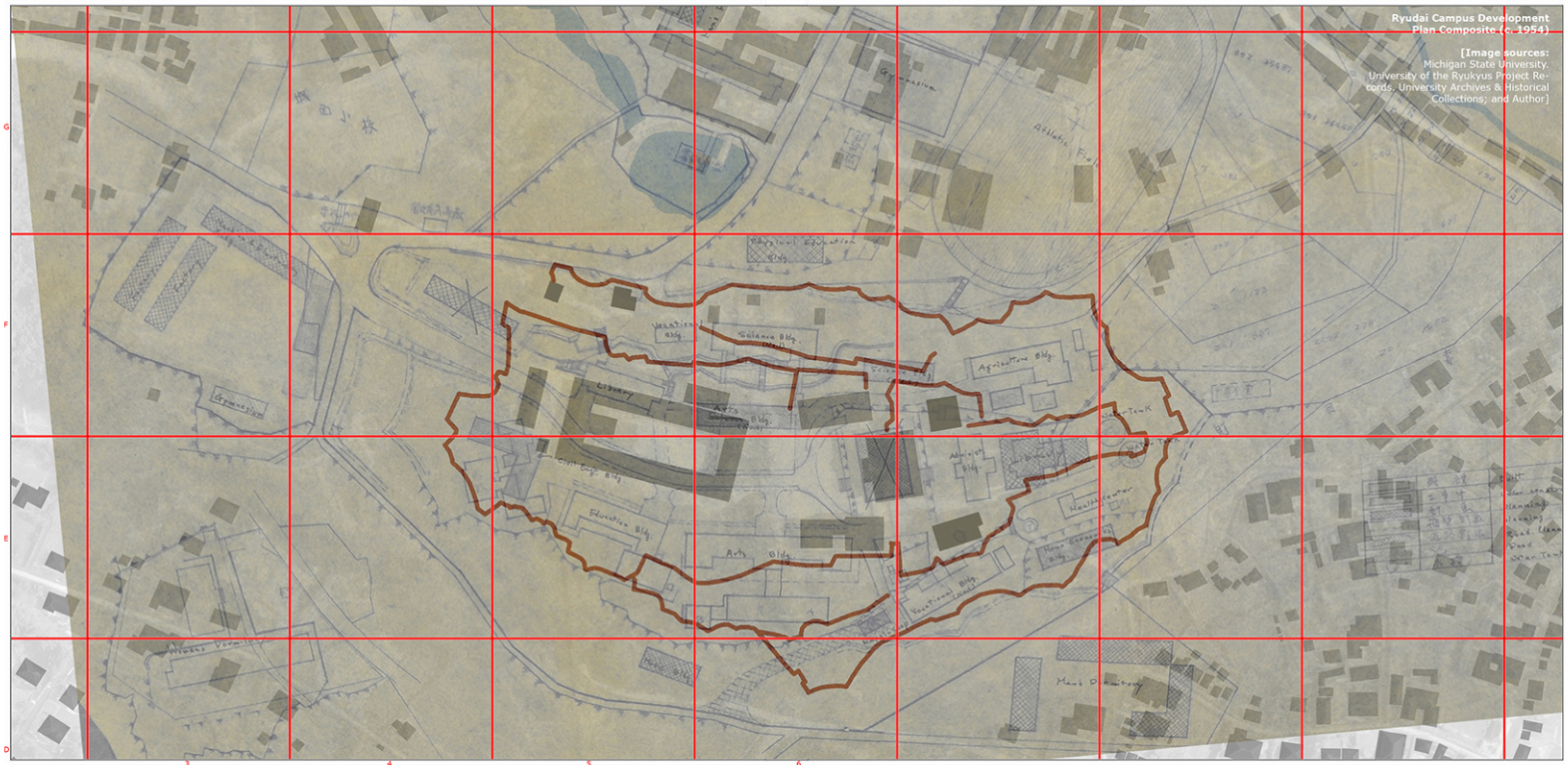
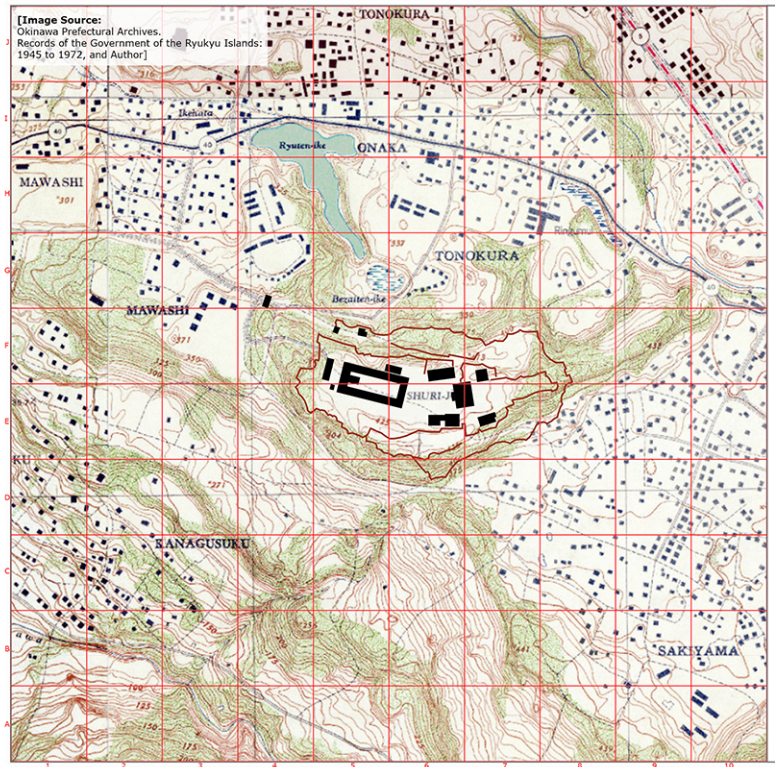
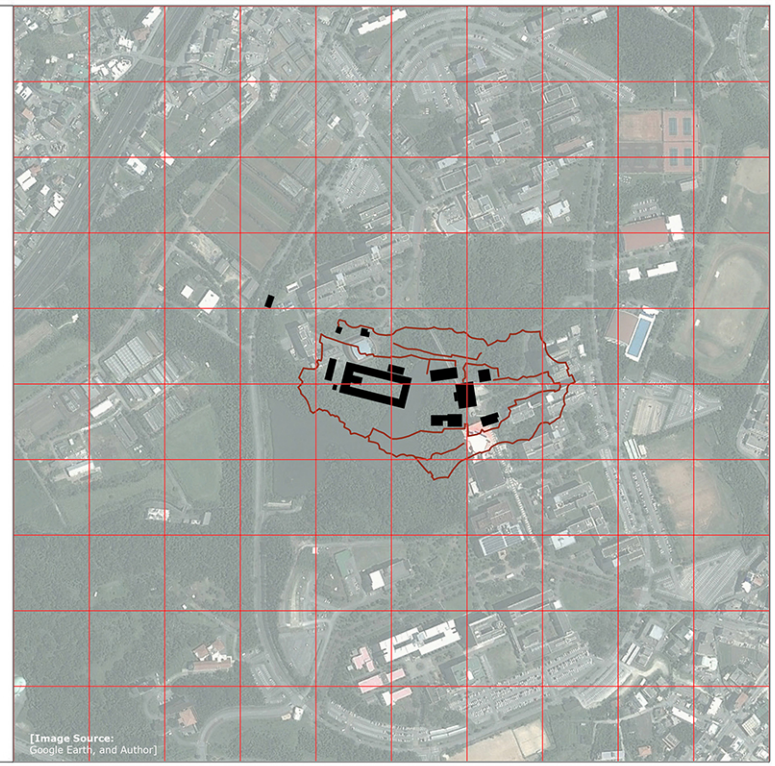
p 302
FIGURE 111

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC


Ryudai Campus Development
Plan Composite (c. 1954)
[Image sources:
Michigan State University.
University of the Ryukyus Project Records, University Archives & Historical Collections; and Author]
Gymnasium
Athletic Field
Physical Education Bldg.
Science Bldg.
Agriculture Bldg.
Library
Arts Bldg.
Civil Engr. Bldg.
Education Bldg.
Arts Bldg.
Vocational Bldg.
Health Center
Home Economics Bldg.
Water Tank
Water Tank

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC





[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ryudai campus at Shuri-jo vs. Ryudai campus at Nishihara

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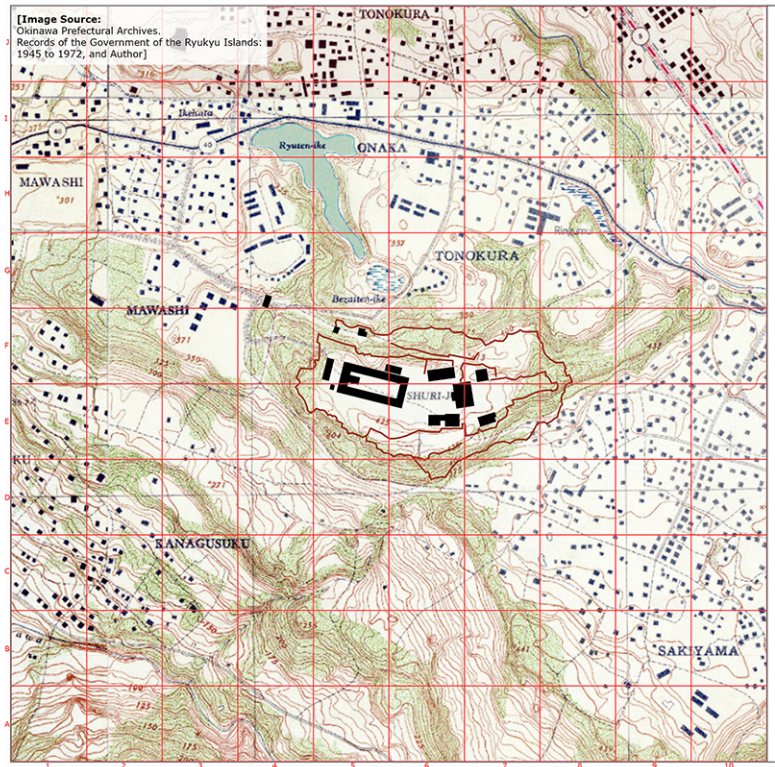
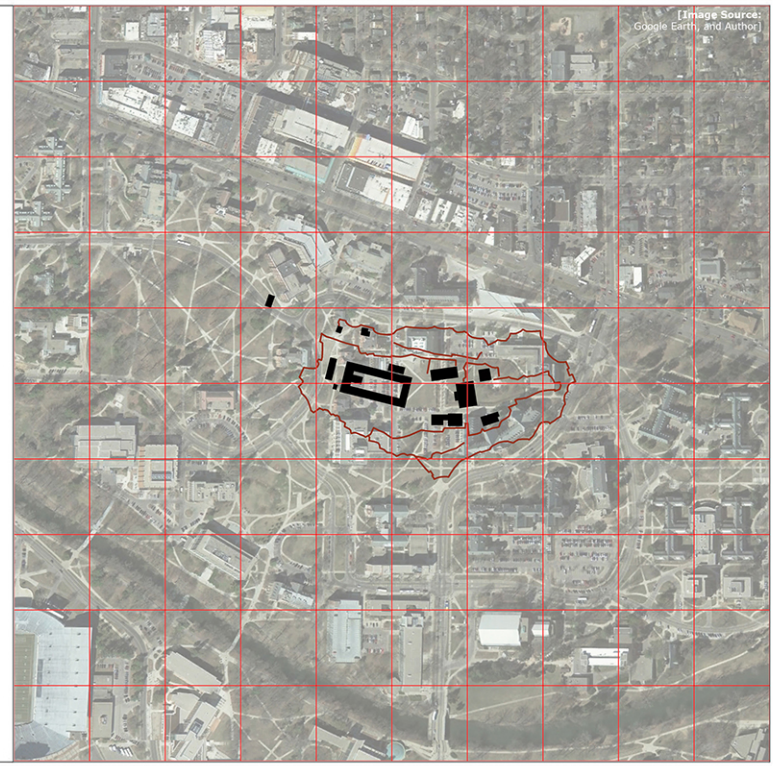
p 304
FIGURE 113

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC





[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ryudai Shuri-jo campus vs. MSU campus

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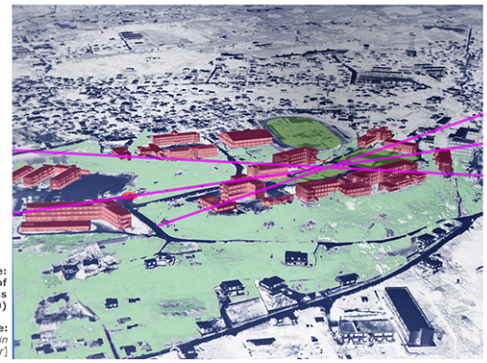
p 305
FIGURE 114

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC

Rightimage:
Aerial photo of Ryudai campus (c. 1950)

[Image source:
USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]



Left image:
Building-open space analysis of Ryudai campus

[Image Source:
Author]

Left image:
Manipulated view of of Ryudai campus (c. 1950)

[Image source:
USCAR, *The Civil Affairs Activities in the Ryukyu Islands, and Author*]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ryudai central campus with birds-eye view to the north

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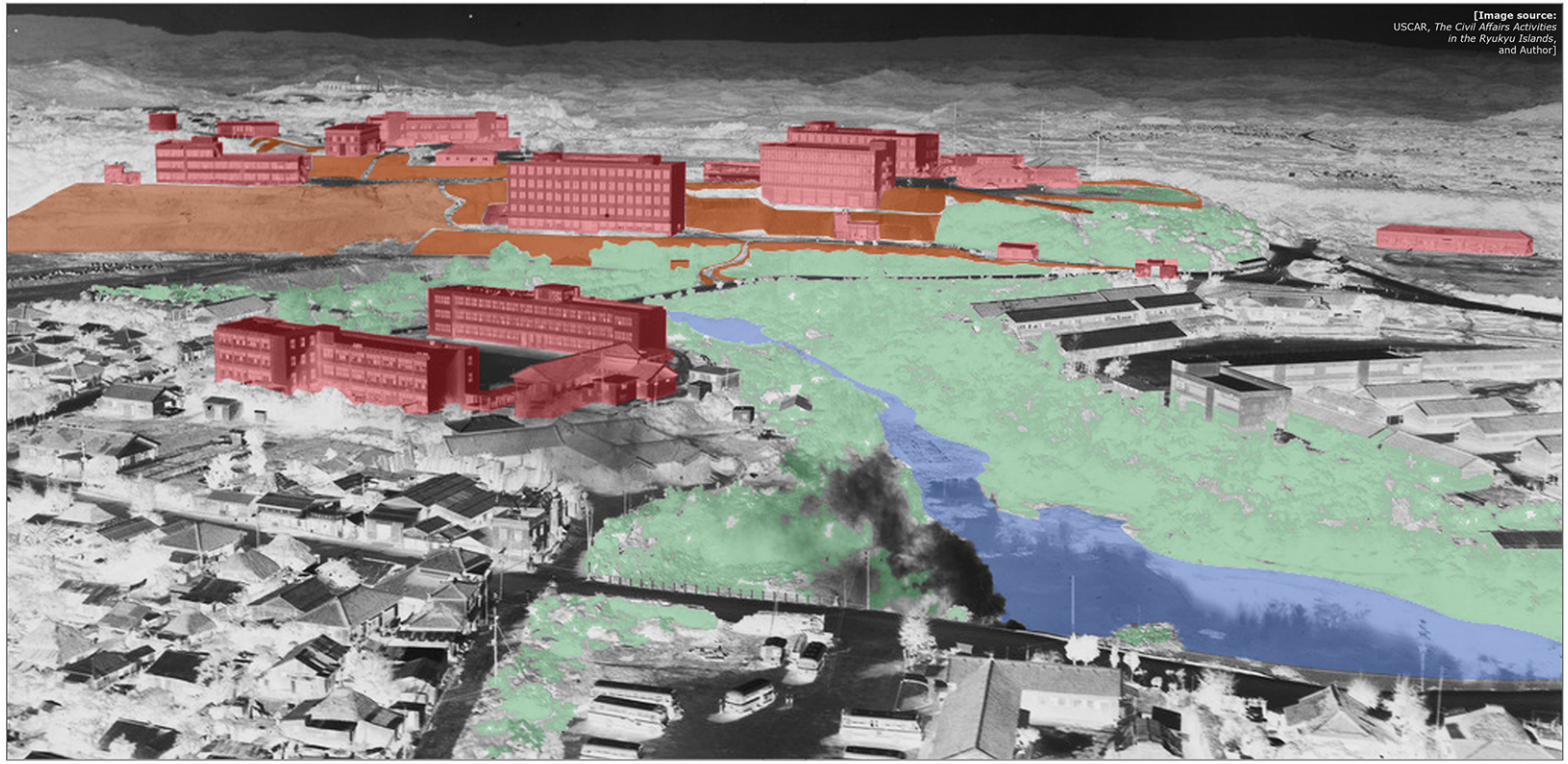
p 306
FIGURE 115

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

View of Ryudai looking over Ryutan Pond towards the south

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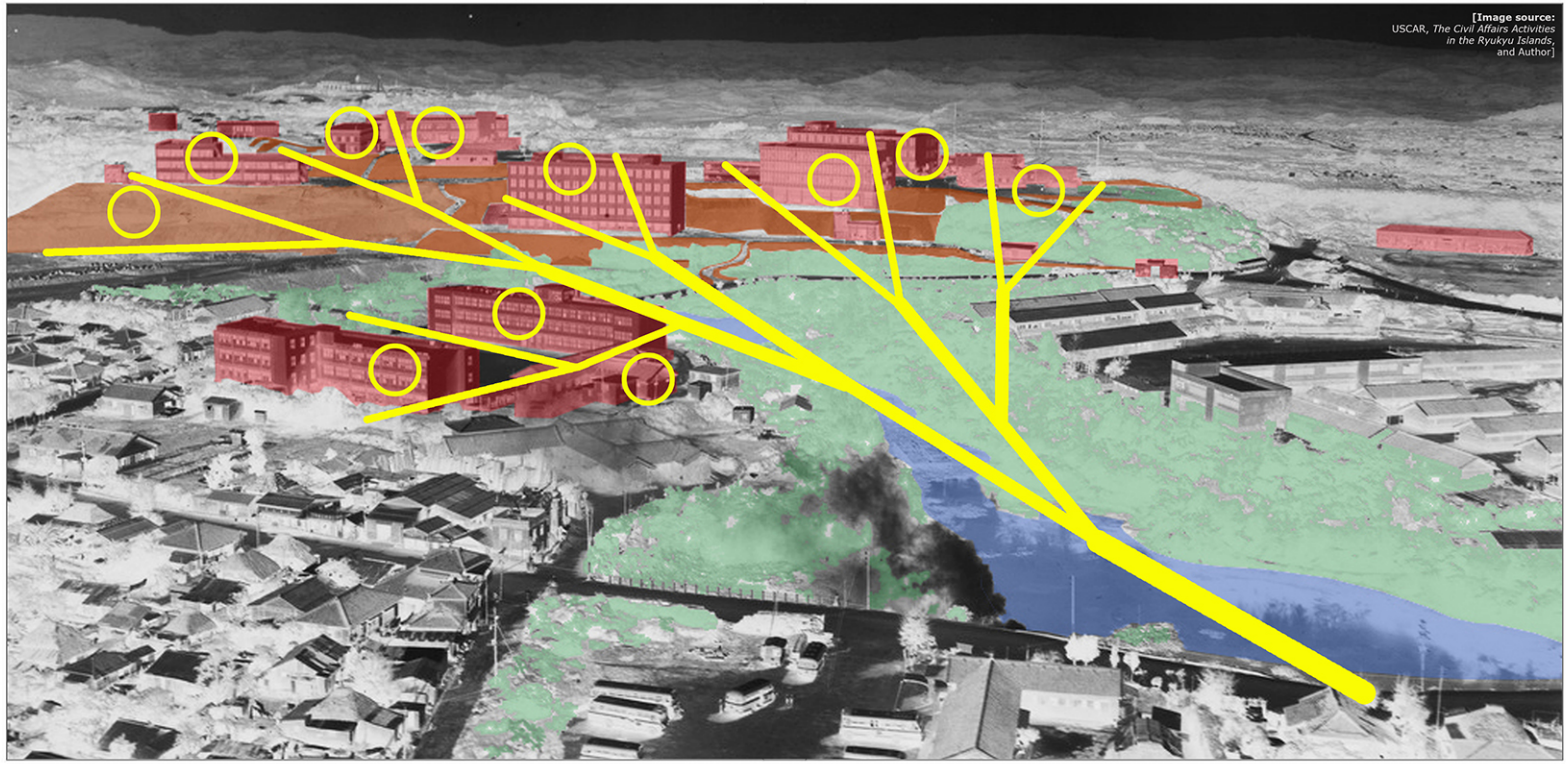
p 307
FIGURE 116

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

View of Ryudai campus with MAT analysis

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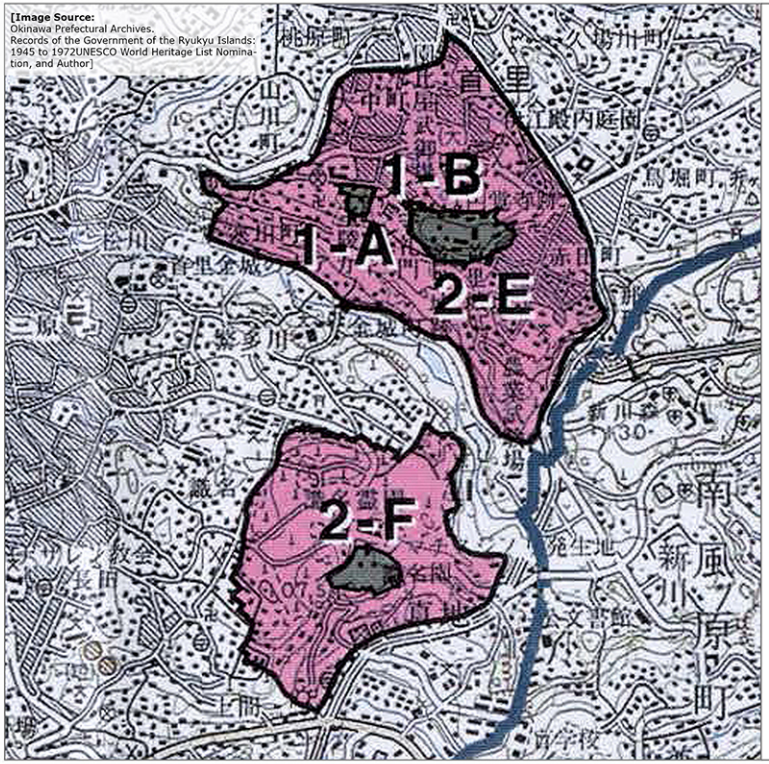
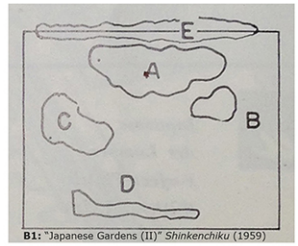
p 308
FIGURE 117

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC





B1: "Japanese Gardens (II)" *Shinkenchiku* (1959)

B2: "Naha Shikinaen" Wikimedia Commons (2014)

B3: "Shikinaen Garden" *Travel Vivi* (2015)

B4: "Shuri Kinjocho-ishidatami-michi" WiKimedia Commons (2014)

B5: "Ukwanshin Tour Day 7" *Ukwanshin Kabudan* (2012)

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

World Heritage sites: Shikinaen imperial resort and Shuri-jo

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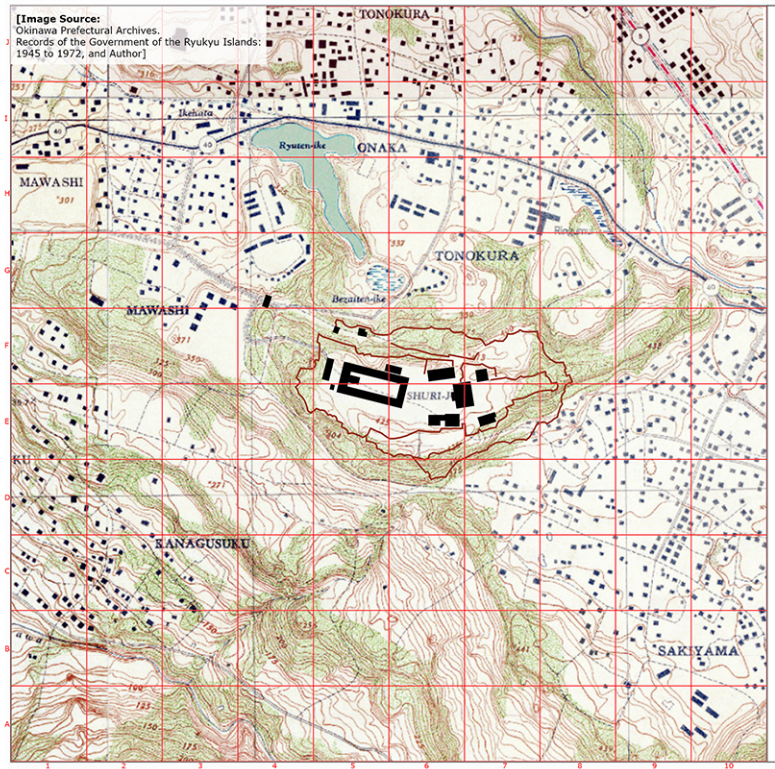
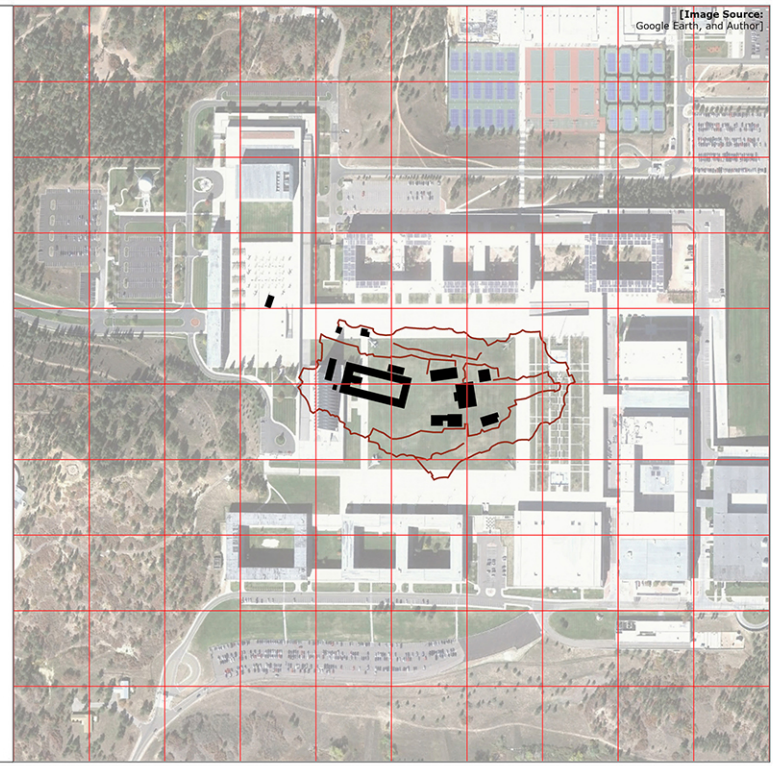
p 309
FIGURE 118

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC





[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ryudai Shuri-jo campus vs. U.S. Air Force academy campus

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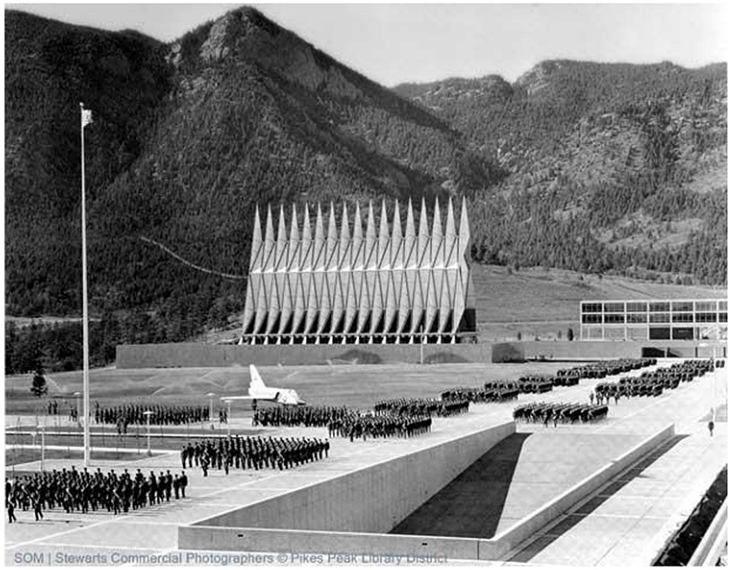
p 310
FIGURE 119

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



[Images source:
SOM, Stewarts Commercial Photographers,
Pikes Peak Library District]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

U.S. Air Force academy campus, by SOM Architects (1954-1957)

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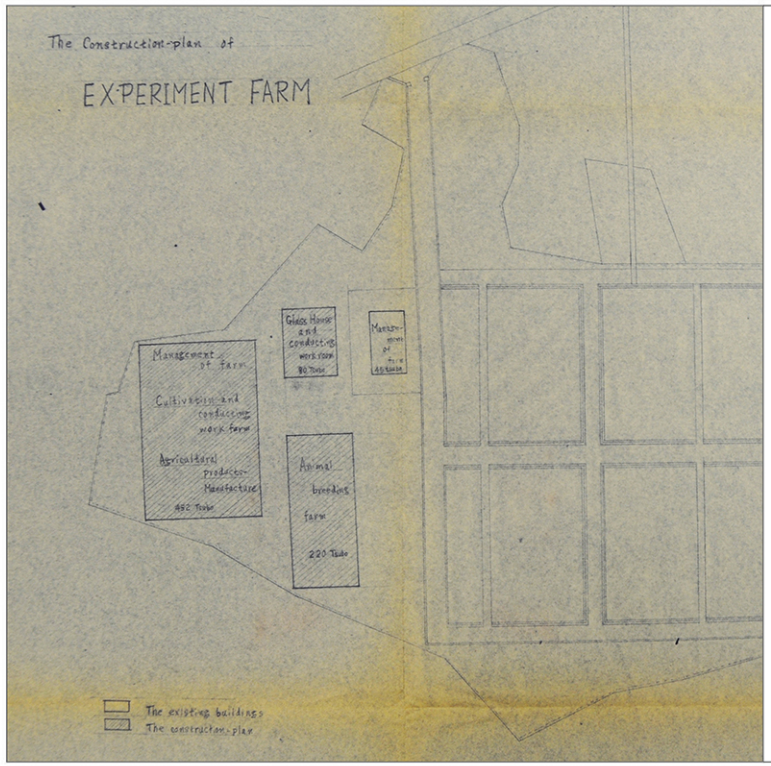
p 311
FIGURE 120

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



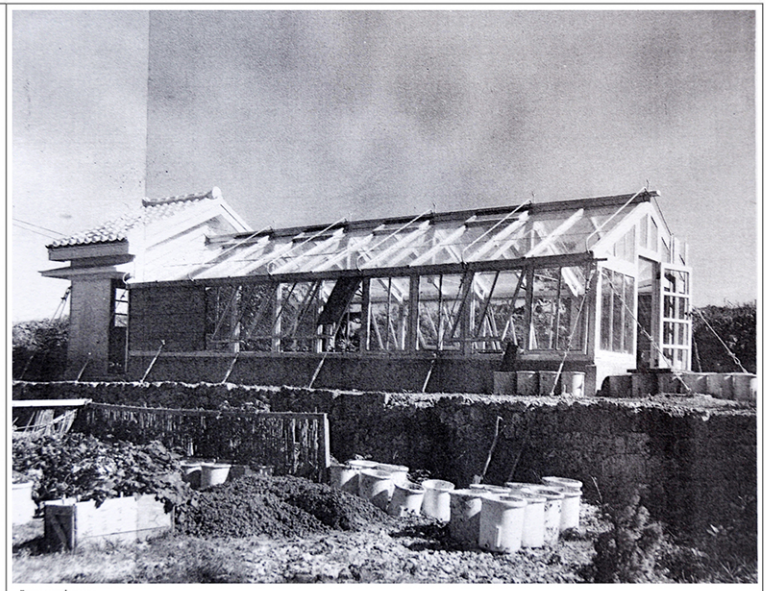


Image above:
Ryudai experimental greenhouse (c. 1955);

[Image Source:
Okinawa Prefecture Archives]

Left image:
Construction drawings for Experimental farm and garden area (c. 1955);

[Image Source:
University of the Ryukyus Project Records]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Experimental farm and greenhouse at Ryudai campus

This page is organized as a mockup of an interactive website. The text in this section is a placeholder, but is intended to explain the overall structure of the illustrations on the page and guide the viewer on how to utilize the tools located below the left "window" and the tabs located at the top of the page.

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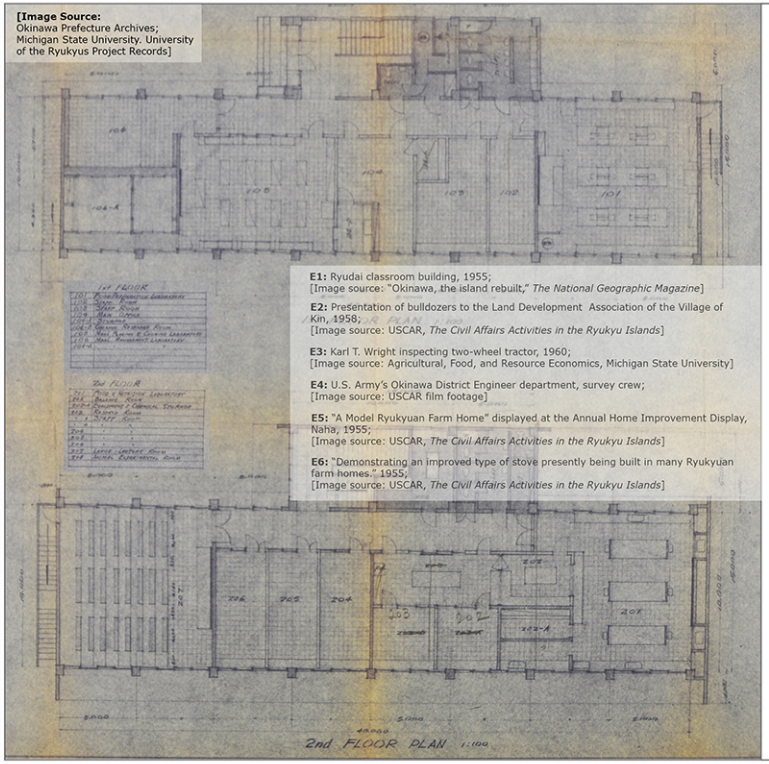
p 312
FIGURE 121

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



[Image Source:
Okinawa Prefecture Archives;
Michigan State University. University of the Ryukyus Project Records]

E1: Ryudai classroom building, 1955;
[Image source: "Okinawa, the island rebuilt," *The National Geographic Magazine*]

E2: Presentation of bulldozers to the Land Development Association of the Village of Kin, 1958;
[Image source: USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]

E3: Karl T. Wright inspecting two-wheel tractor, 1960;
[Image source: Agricultural, Food, and Resource Economics, Michigan State University]

E4: U.S. Army's Okinawa District Engineer department, survey crew;
[Image source: USCAR film footage]

E5: "A Model Ryukyuan Farm Home" displayed at the Annual Home Improvement Display, Naha, 1955;
[Image source: USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]

E6: "Demonstrating an improved type of stove presently being built in many Ryukyuan farm homes," 1955;
[Image source: USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]


E.1

E.2


E.3


E.4


E.5


E.6

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ryudai land-grant-style extension educational programs

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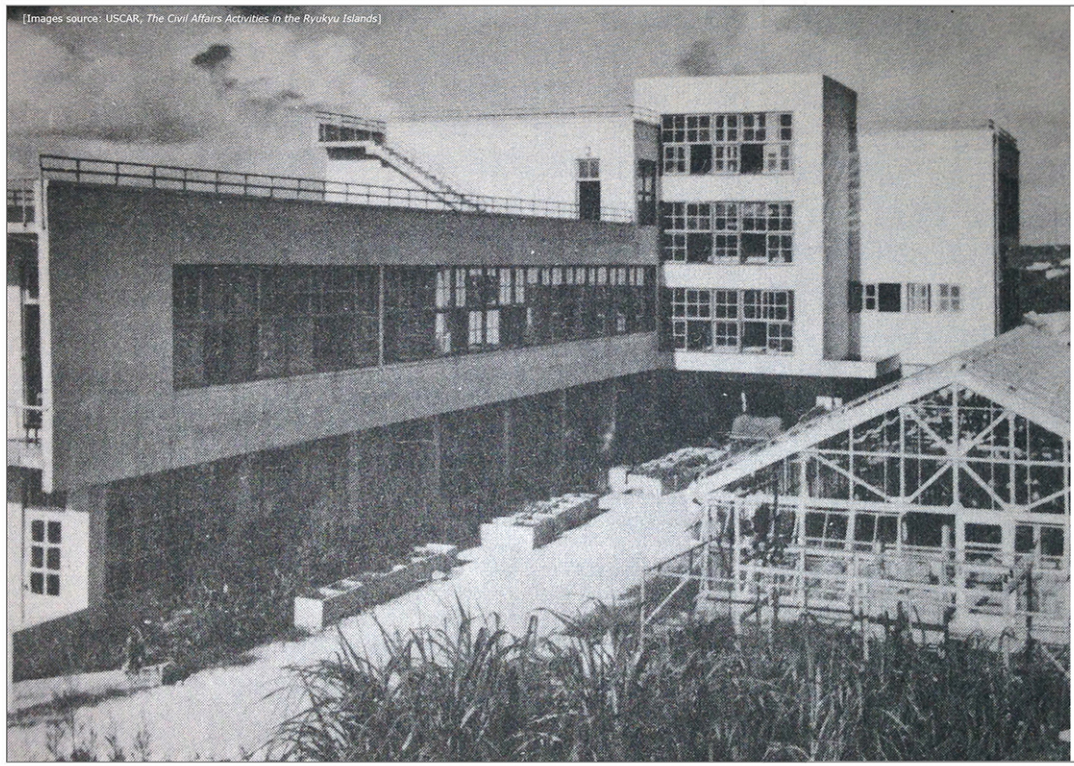
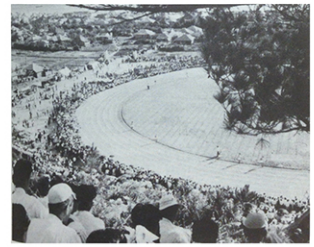
p 313
FIGURE 122

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC

[Images source: USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]





DESIGN FOR THE FUTURE, MODEL FARM HOME

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ag-Home Ec. Bldg., Dispensary, Track, and Model Farm House

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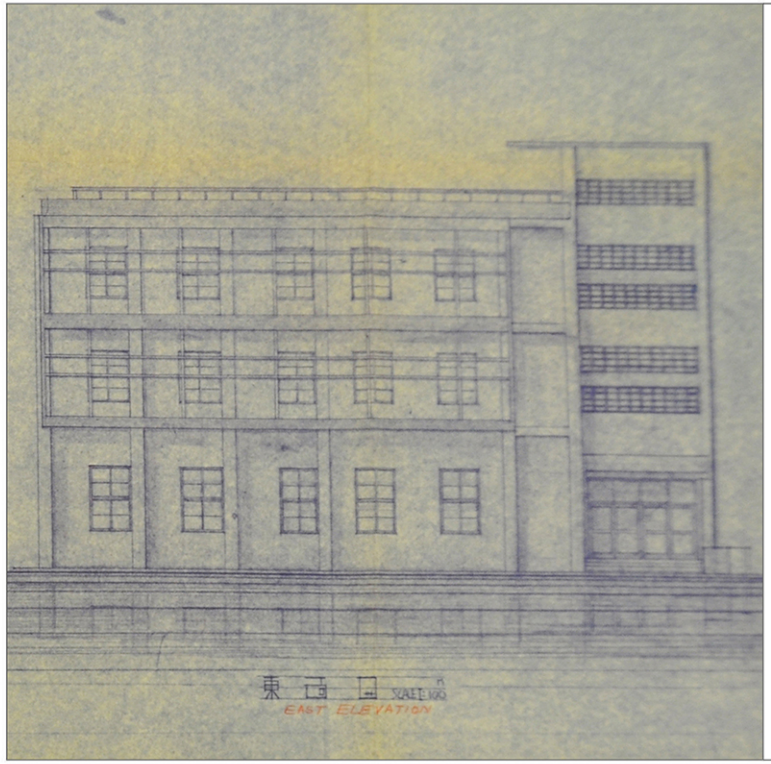
p 314
FIGURE 123

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



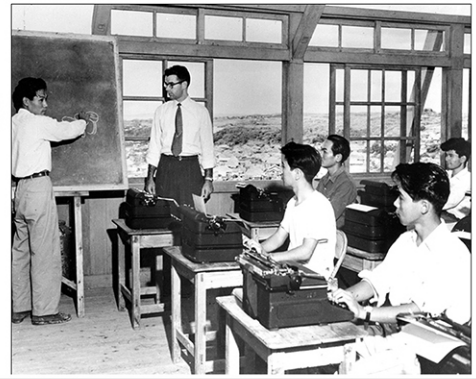


Image above right:
Home economics faculty and students (c. 1955);

Right image:
MSU and Ryudai instructors and students in typing class (c. 1960);

Left images:
Architecture-engineering construction documents of Ryudai academic building (c. 1955);

[Images Source:
Okinawa Prefecture Archives;
Michigan State University. University of the Ryukyus Project Records]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Ag-Home Ec. Bldg. and classroom environment

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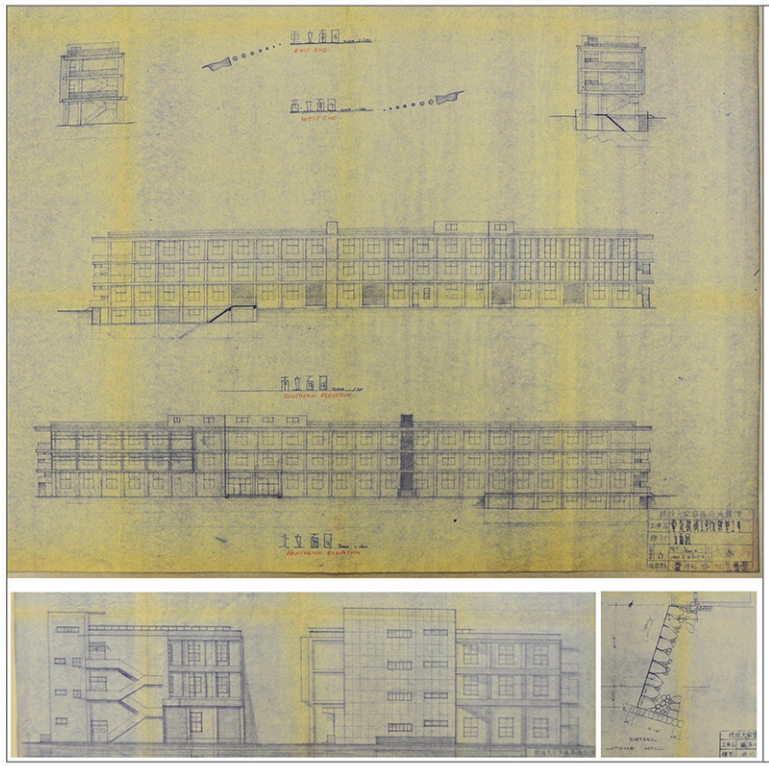
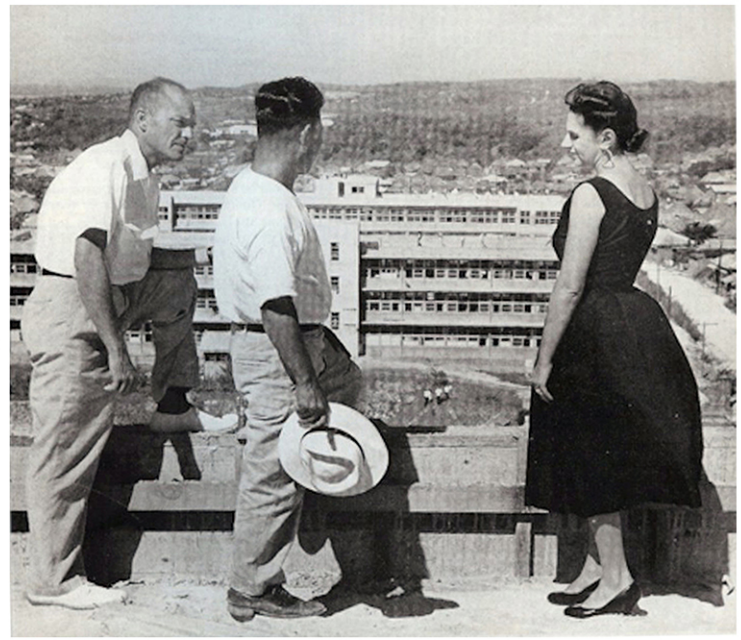
p 315
FIGURE 124

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC





Left images:
Architecture-engineering construction documents of Ryudai academic buildings (c. 1954);

[Image Source:
Okinawa Prefectural Archives.
Records of the Government of the Ryukyu Islands: 1945 to 1972]

Image above:
USCAR Director of Information and Education, Earl Diffenderfer and his wife, journalist Hope Diffenderfer, along with unidentified Ryudai educator, overlooking Ryudai campus (c. 1955);

Image Source:
"Okinawa, the island rebuilt," *The National Geographic Magazine*]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Birds-eye view of main campus quadrangle at Ryudai

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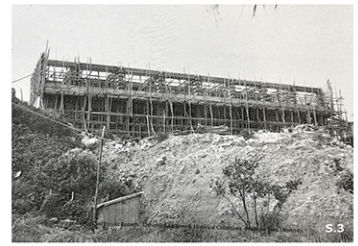
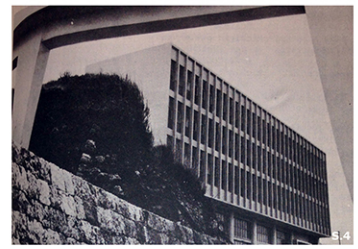
p 316
FIGURE 125

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC

[Images source: USCAR, *The Civil Affairs Activities in the Ryukyu Islands*]





[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Shikiya Library (1955)

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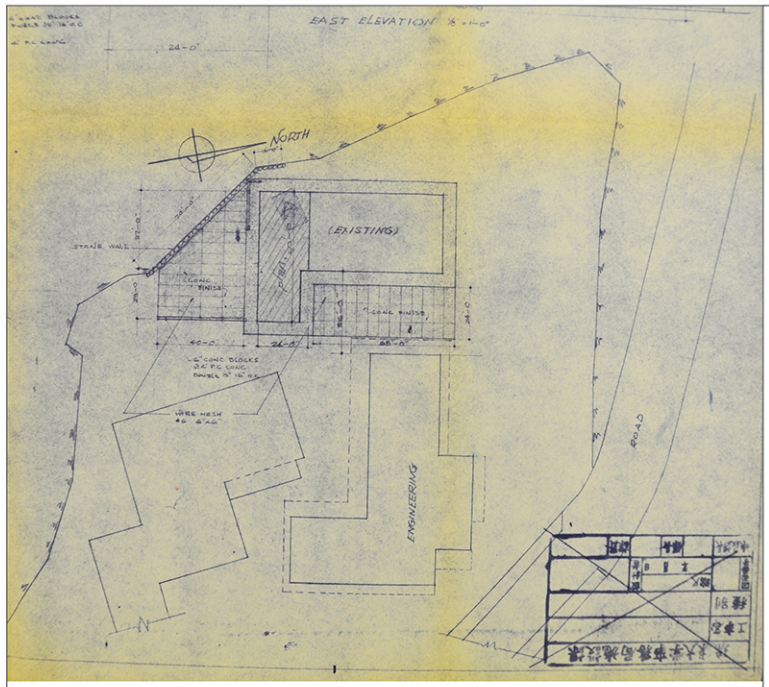
p 317
FIGURE 126

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



Left image:
Civil engineering buildings, adjacent to Shuri walls (c. 1954);

Image above:
Ryudai academic classroom buildings and library, looking over Ryutan Pond (c. 1954);

[Images Source:
Okinawa Prefectural Archives.
Records of the Government of the Ryukyu Islands: 1945 to 1972]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Engineering plan details and view over Ryutan Pond

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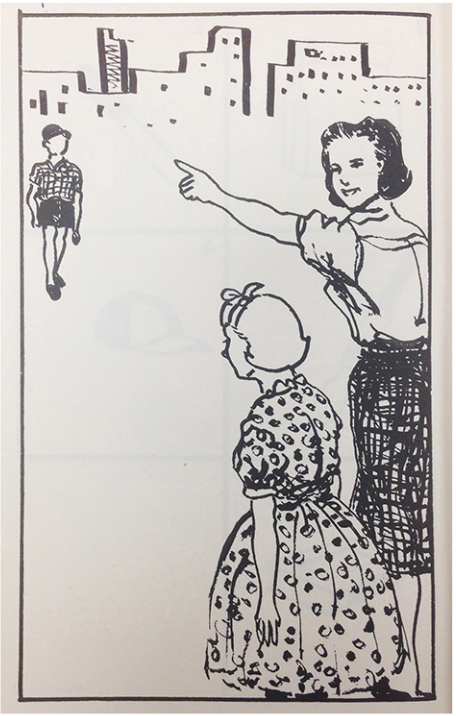
p 318
FIGURE 127



Far Left Image:
Dr. Karl T. Wright with Dr. Rowland Pierson looking over Ryutan Pond towards the main campus (c. 1955);

[Image Source:
Okinawa Prefectural Archives.
Records of the Government of the Ryukyu Islands: 1945 to 1972]

Left Image:
Illustration from English language textbook (c. 1955);

[Image Source:
Yoshimitsu Narita and Hirosi Yabiku.
My First English Book]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Two Views of the Ryudai, looking over Ryutan Pond

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大学本部
University Head Office
附属図書館
University Library

学部 Faculties
文学部
Faculty of Law and Letters
観光産業科学部
Faculty of Tourism Sciences and Industrial Management
教育学部
Faculty of Education
理学部
Faculty of Science
医学部
Faculty of Medicine
工学部
Faculty of Engineering
島嶼防災研究センター
Disaster Prevention Research Center for Island Regions
農学部
Faculty of Agriculture

附置施設 Affiliated Institutes
文系総合研究棟
Arts and General Research Center
国際沖縄研究所
International Institute for Okinawan Studies(IIOS)
附属小学校
Elementary School
附属中学校
Junior High School
教育実践総合センター
Center for Educational Research and Development
理系複合棟
Science Collaboration Center
熱帯生物圏研究センター
Tropical Biosphere Research Center
機器分析支援センター
Instrumental Research Center
分子生命科学研究施設
Center of Molecular Biosciences(COMBS)
附属病院
University Hospital
亜熱帯フィールド科学教育研究センター
Subtropical Field Science Center
畜産施設
Livestock Farming Facility
園芸用ガラス室
Greenhouse
圃場
Farm

学内共同教育研究施設
Inter-Departmental Institutes for Education and Research
産学官連携推進機構
Integrated Innovation Center for Community(IICC)
総合情報処理センター
Computing and Networking Center
地域国際学習センター
Regional and International Study Center
留学生センター
International Student Center
生涯学習教育研究センター
Education and Research Center for Lifelong Learning
放送大学
The Open University of Japan

学内共同利用施設等 Joint-Use Facilities
風樹館
University Museum (Fujukan)
極低温センター
Low Temperature Center
大学教育センター
University Education Center
共通教育棟
General Education Center
亜熱帯島嶼科学拠点研究棟
Subtropical Island Studies Research Building

その他の施設 Other Facilities
大学会館
University Hall
就職センター
Placement Center
国際交流会館
International House
研究者交流施設・50周年記念館
Researcher Exchange Facility・50th Anniversary Memorial Hall
保健管理センター
Health Administration Center
中央食堂・売店
Central Cafeteria & Store
北食堂
Northern Cafeteria
がじゅまる会館
Gajumaru Hall

スポーツ施設 Sports Facilities
第一体育館
Main Gymnasium
第二体育館
Secondary Gymnasium
野球場
Baseball Field
サッカー、ラグビー場
Soccer and Rugby Pitch
テニスコート
Tennis Courts
プール
Swimming Pool
合宿研修施設
Camp Training Facility
弓道場
Japanese Archery Dojo
400mトラック
400 meter Track

学生利用施設 Student Facilities
千原寮
Senbaru Dormitory
課外活動共用施設
Extracurricular Activity Facilities

[Image Source:
"Campus Map." University of the Ryukyus website]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Brochure from Ryudai campus at Nishihara

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Image Above:
Tourist information sign at Shuri-jo;

[Image Source:
Medoruma Shun. "We Cannot Allow Governor Nakaima to Falsify the History of the Battle of Okinawa," *The Asia-Pacific Journal*

Far Left Image:
Tourist website for Shuri-jo;

[Image Source:
"Shuri Castle" Japan-guide.com website]

Left Image:
Tourist map for Shuri-jo;

[Image Source:
Okinawa Convention & Visitors Bureau website]

Image Below:
Tourist photo at Shuri-jo;

[Image Source:
Hawaii United Okinawa Association website]

[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Tourism signage and information, Shuri-jo

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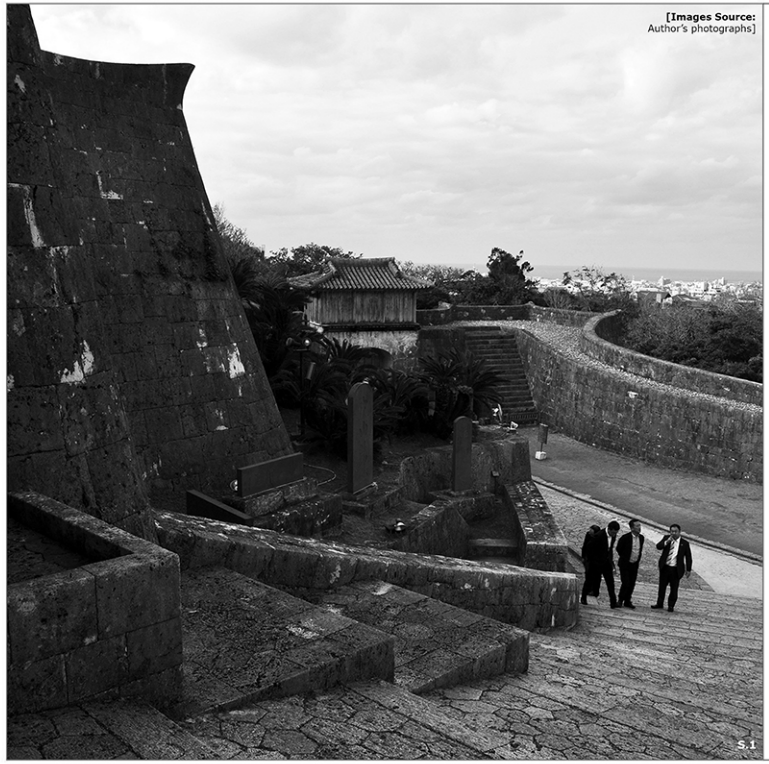
p 321
FIGURE 130

BIOTIC | ABIOTIC | SOCIAL | ECONOMIC



[home] [zoom out] [zoom in] [2d view] [3d view] [photos] [google link]

Walking tour of Shuri-jo (2014)

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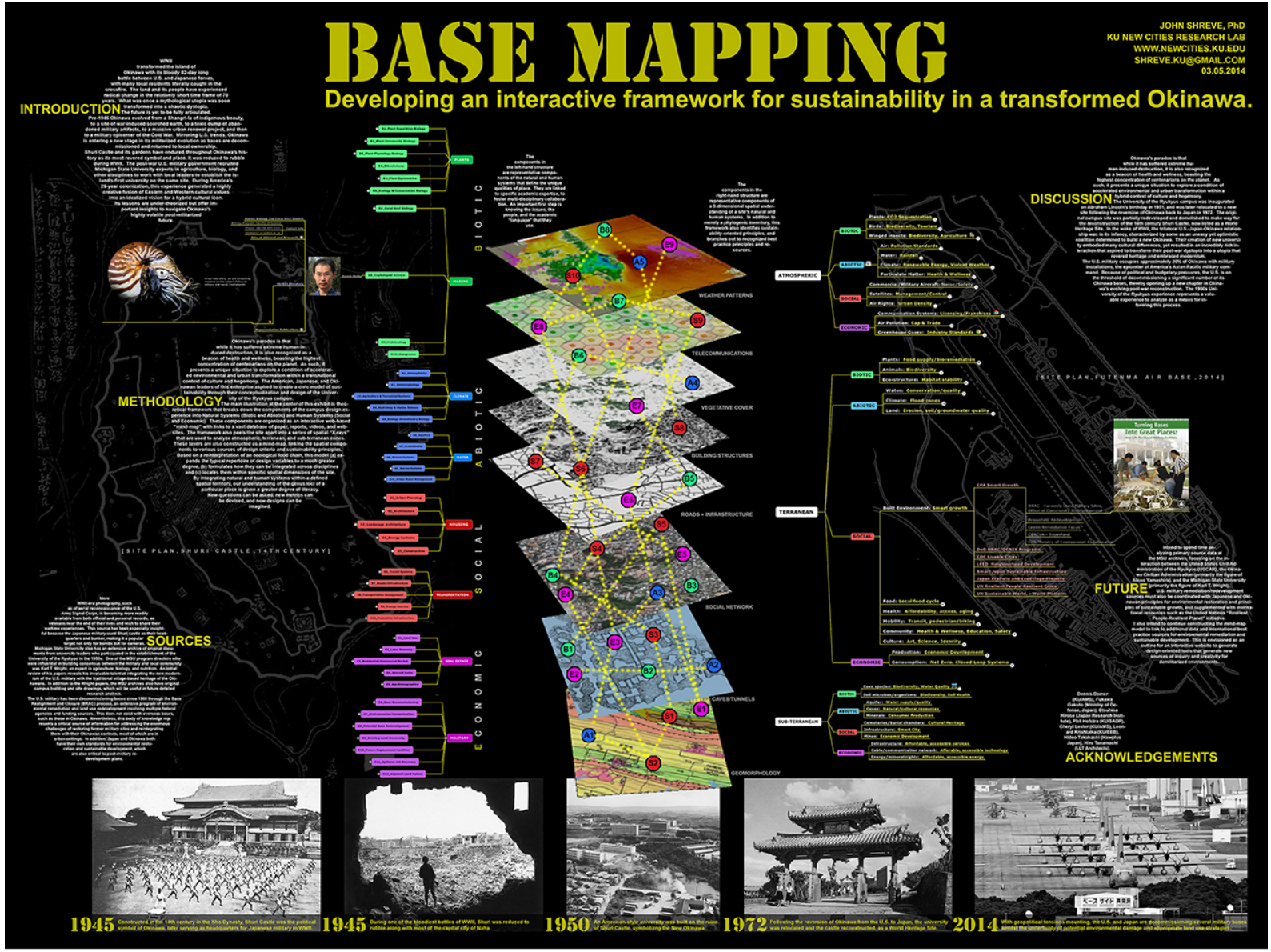
p 322
FIGURE 131



BASEmapping model for Shuri-jo and MCAS Futenma p. 323, Figure 132